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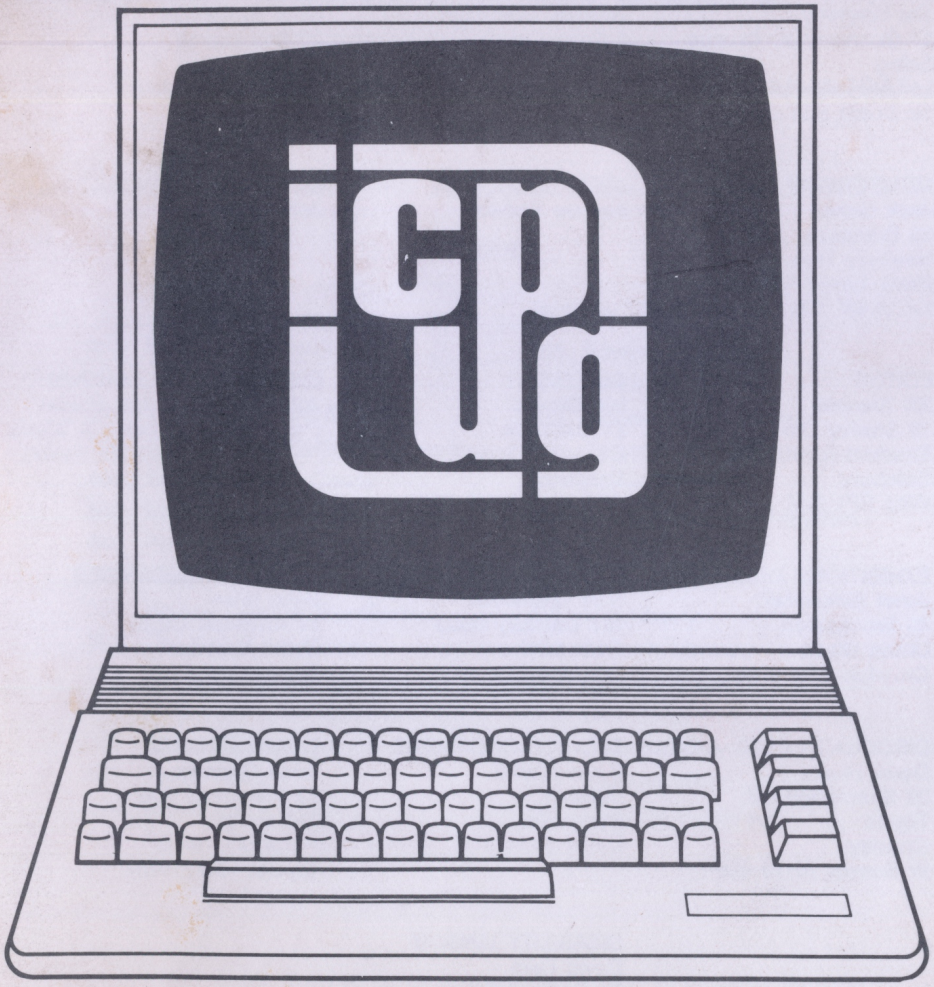

Europe's first independent magazine for CBM users

Volume 9 November/December 1987 Number 6

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INDEPENDENT COMMODORE PRODUCTS USERS GROUP
newsletter

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EDITORS' NOTEBOOK

Well, that will teach me to keep my big mouth shut. I mentioned in the last editorial that I was "pleasently surprised at how easy the changeover was", and how "easy" my job was. Mr Murphy must have overheard, because from that point on, just about everything that could go wrong, did. After our Printer, Jonathan Cooley, had manoeuvered the printouts onto paste-up sheets, the output from the LaserJet began to mysteriously "disappear". A total reprint was called for. Luckily, although on holiday, I was reachable by telephone, and fortunately we now have a Laser printer which can spew out the whole lot in about three hours, ready made-up. Then, the advertisements were lost when Jonathan burnt the old, useless paste-ups, his assistant was hurt (not seriously, luckily) in a car accident, and the "predicted" hurricane caused severe storm and flood damage to his printing press. This series of events put paid to any hope I had of getting our first Newsletter out on schedule, and taught me some important lessons in the process (don't succumb to wishful thinking, not where computers are involved, anyway). One good note though, Jonathan has taken delivery of a new piece of equipment which apparently staples, folds, trims and stacks all in one go, hopefully cutting down the whole print time to 8 days. If there isn't a Postal Strike and if nothing else goes wrong, you should be reading this in time for turkey (Thanksgiving?). I'm not saying any more.

Perhaps the single most annoying result of all this happenstance was having a disk full of classic Mike Todd articles posted through my door, the day after I put the Newsletter to bed. I'd neglected to contact Mike and inform him of the new "schedule" and provide him with a deadline. Anyway, the articles are presented in all their glory this issue, and add to the general profusion of Amiga articles (we had to make this issue larger just to keep everyone happy).

Betty Clay, our contact in the States, and provider of Amiga Public Domain disks, has been "adopted" as our American Correspondant, after offering to write regularly. Her "Letter From America" includes an interesting overview of the state of telecommunications networks in Texas, and news of an exciting offer for Amiga 500 owners in the USA.

I had neither the time nor the space to write a full report on the Desktop Publishing Show which I attended, but I have managed to squeeze in a short preview further on in the Newsletter. If I can get my act together by next time I hope to provide a complete article, together with more general aspects of Desktop Publishing.

The membership figures for 1987, collated by the Membership Secretary, are quite interesting. Of 3894 members, new and renewed, 56% still use Commodore 64s, 35% use 128s, and compared to only 14% of Amigites, there is an incredible 12% of PET users. VIC users cover 9%, +4 8%, and C16s, PCs and 700s each with about 1%. 83% of members own disk drives, 75% printers, and 60% cassettes.

Please have all contributions for the next Newsletter to me by the 18th of January (1988 if possible). If you've got any spare time, have a merry Christmas, and a happy New Year.

BB

IAIN'S... INSCRIPTIONS (?)

Well gang, Bill's other half here wishing all members a very Happy Christmas and a prosperous New Year. The Amiga seems to be growing so fast that much of our Newsletter may appear to be getting taken over by Amiga articles. We don't try to do this deliberately, it's just that more and more of the submissions concern the Amiga, and with Christmas upon us no doubt a few more members will be unwrapping them on Christmas morning. So, get writing ready for the next Newsletter in the New Year, and give us some variation to put in this magazine.

I did mention in the review of 'Butcher 2' for the Amiga (later in this Newsletter) to look on this page for more information on software from The Amiga Centre Scotland. Well, I'm sure you will be glad to know that this Newsletter didn't have room for my reviews on two excellent pieces of software for the (dare I say it) Amiga, both kindly lent to us for review by The Amiga Centre Scotland, these being 'Forms In Flight' and 'Animator's Apprentice'.

If you can't wait for the reviews in next month's Newsletter then contact either Martin Lowe of The Amiga Centre Scotland or better still our trusty Discounts Officer John Bickerstaff for latest details and prices. Well, thats all for now, see you all in the New Year, and happy computing.

P.S. Tim "Fingers" Arnot's new book "The Whole Memory Guide To The Amiga Joystick's Fire Button" will be serialised starting in the next issue.

How about "Iain's Italics"?... or Indites? Indents? Idiosynchrasies? Ink-Slinging? Indices? Images? Imaginations? Inspirations? Illegibles? Illustrations? Ill.....

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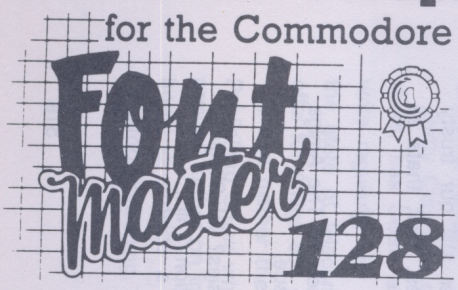

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JIM'S JOTTINGS

by Jim Kennedy

Seasons greetings

On behalf of the National Committee I would like to take this opportunity to wish all ICPUG members a very happy holiday season and hope all enjoy a prosperous New Year. I will be celebrating the season on the other side of the pond. Along with my wife, Rosina, and two month old son, Stephen, I shall be attending my eldest son's wedding in Florida on the 12th of December followed by a three week visit to my childhood home in California to visit relatives and celebrate Christmas and the New Year. We shall all be returning to Great Britain around the 5th of January. If you could hold your phone calls to me until then my answer-phone will get a well deserved rest while I am away.

Bible on disk

The response to the article in the last Newsletter about the Bible on disk was very large. In order to cope in an orderly manner Mr. Martin Snow of 32 Orchard Avenue, Worthing, West Sussex BN14 7PY has volunteereed to become the Bible Librarian. Martin has a good range of Commodore machines including a PET, 64, 128 and some PC clones with hard disks. I have forwarded all responses and requests to Martin who will deal with them. When the transfer of the Bible to Martin's equipment takes place he should be in a position to furnish copies of the Bible in most Commodore disk formats as well as PC format. Slight delays may be expected as Pete MacLaurin is moving house so the transfer may take longer than anticipated. Meanwhile, any further correspondence or requests should go to Martin.

One thing which may have to be done over the next few months, or possibly years, is a spelling check on the version of the Bible we have. The people who keyed in the original were not perfect and we suspect that a few errors may have crept in which can be largely eliminated with help from various individuals. Again, contact Martin if you have any questions, requests or wish to volunteer to help with this task.

The Great Prestel Hack remembered

Last month's Newsletter contained a review of Mini Office II, in which my name was mentioned as having received from Steve Gold, who was working for Database Publications at the time, the Mini Office II Communications Module. I think the Comms Module is a good program; in fact, when told that it cost around £19 I reckoned that price pertained to the Comms portion only and

thought the price reasonable. When told that was the price for the complete package I moved it to being a Very Good Buy. I, not knowing very much about comms, find it very useful and easy to use with a Compunet modem. It also includes another program which supports alternative modems as well. Nice touch that, catering for all types.

Mention of this package and Steve Gold reminded me of a short bit of computer history which may interest readers. It is known as the Great Prestel Hack. Your intrepid editor, Bill Bremner mentioned a bit about this in the last Newsletter but I thought members might appreciate a few more gory details.

Although ICPUG itself was not involved in this rather famous event, some of the participants are members. But first allow me to digress from the main story and discuss the term "hacker" and how it has evolved over the years.

The word Hacker was used at least as far back as the mid 1950s at the Massachusetts Institute of Technology (MIT) in Cambridge, Massachusetts to mean someone who was dull and plodding; that is, a person who didn't have the swordsman's finesse to do things properly and spent his life hacking through the jungle of life. Hackers were close relations of Tech Tools, another species of MIT student who were overly studious and socially 'out of it'. Now MIT was a bit different in so far as US universities were concerned; students were accepted from only a small fraction in the upper one percent of the US College Board Examinations qualifiers, exams somewhat analogous to the British "O" and "A" Levels. IQs amongst MIT entrants of 160 plus were common and many students were bookworms of the first magnitude. A social life outside of the Physics laboratory was considered by many hackers and tech tools to be unnecessary and a waste of time.

However, during the 60s and 70s the meaning of hacker gradually changed and became associated with computer freaks, probably as a result of early computer students who spent most of their time in front of a VDU. Jerry Pournelle, who writes the Chaos Manor column in BYTE, still uses it in that sense when he mentions hackers. He is referring to the computer enthusiasts who were the real micro pioneers, the early doers of neat tricks in machine code on the 6502, the afficionados of user-friendly programming, and writers of useful public domain CP/M utilities. But time moved on, another mutation took place, and the term hacker has taken on yet another new meaning.

Big software houses took over most of the neat tricks of the early hackers and then made the computer world respectable with business standards. Or, as John Cleese would say, "Boring". So hackers looked for fresh fields and found them down the end of a telephone line. The term is now becoming synonymous with a person who breaks into networks and other computers.

But back to our story. In early November 1984 two computer addicts, Steve Gold and Robert Schifreen broke into the Prestel database and did various things which have been described as humourous or nasty depending on whether you are an ordinary mortal or you work for British Telecom, or its subsidiary, Prestel. These gentlemen accessed an 'extra' Prestel computer supposedly unknown to the general public which was used for keeping internal records as well as to store data about Information Providers (IPs). This extra computer was poorly protected; BT thought that by keeping both its existence and phone number secret it would remain relatively secure. After Messrs Gold and Schifreen 'did their thing' on this extra Prestel computer, His Royal Highness the Duke of Edinburgh with his ex-directory Prestel mailbox, found he had been, to use the current vernacular, hacked.

A few days later, in a famous 30 November 1984 network pronouncement, BT/Prestel did various things. First, they initiated their famous "Everyone Change Your Password" program. Second, they strenuously denied that anything was amiss with their security. Third, they terminated Timefame's contract as an IP. Timefame became mixed up with the demonstration of the hack and publicly said Prestel security was not up to scratch. BT insisted that Timefame's allegations about poor Prestel security had no basis in fact. Finally, they openly published on Prestel pages 5832a & 5832b of the day that "hackers have been portrayed as harmless, fun-loving hobbyists but their use of the system is fraudulent & they could be more accurately described as electronic shoplifters". Exactly what the hackers 'lifted' is not clear. But this statement by Prestel didn't fit in too well with their aforementioned denials and Fleet Street was off and running with a little help from the hackers. Journalists asked embarassing questions like "How come you have a new club called "Buck Fusby" on your database at page 540999540?" and "How did it get there?" No marks for guessing who put it up.

After wiping the egg off their face Prestel finally admitted the hack happened. Under the name of Regina they sued the two Messrs in question for forgery. They chose forgery because they couldn't find any other law under which to charge the culprits, assuming of course the hackers actually were culprits. In April 1986 at Southwark Crown Court round one went to BT, sorry Regina.

An appeal was lodged. On 17 July 87 the Court of Appeal overturned the original conviction and in effect said of Steve and Robert, "Naughty they may have been, but forgery, they did not do." A person is guilty of forgery if he makes a false instrument which, according to the law as it pertains to this case, means on any disk, tape, sound track or other device on or in which information is recorded or stored. But what was the false instrument here?

Somewhat akin to the question, "How many angels can dance on the end of a needle?" the legal eagles recognized two options: first, the false instrument could be a series of electronic pulses. However, the learned judges agreed that these were not of the same 'genus' as a disk, tape, or other device. Second, the false instrument could be that section of Prestel known as the User Segment which for a brief moment in time matches the various pulses against a table of passwords and codes and then wipes itself clean waiting for the next caller. This was apparently considered is a bit like writing a forged cheque with very quickly disappearing ink, so the Justices didn't buy that option either. Round two to the hackers.

It is not known if this case will be carried on to round three at the House of Lords, but, as the law now stands, it appears that Parliament must now sort things out, assuming it sees fit to do so. For members wishing to delve into the legal aspects of the case I would suggest the Law Report in The Daily Telegraph of 11 September 1987 which contains the summary of the Court of Appeal's decision. Further, both Steve Gold and Robert Schrifreen spilled the beans about their hack in an article in the October 1987 issue of PCW.

Need I say that ICPUG does not support activities like illegal hacking or piracy of software? However, I'm sure our members do enjoy a good laugh when an organization makes a right fool of itself. After all, imagine a safe-cracker being charged with a single count of forgery after making off with £1,000,000 from his local bank. And bear in mind that neither Steve nor Robert stole anything from Prestel, they merely left messages which showed they could get into a system with rather poor security. The irony is further compounded by the fact that many banks pay good money for experts to do what these two did in an effort to make their systems more secure.

It may be of interest that not only has Steve Gold been an ICPUG member for a few years now but Alistair Kelman, a barrister who appeared for Steve Gold in his court appearances, is a member of even longer standing. Alistair is our ICPUG Legal Adviser and he came up with the idea that we should become a marketing co-operative under the Registrar of Friendly Societies as a means of achieving limited liability while avoiding some undesirable side effects of becoming a registered company under Companies House.

One end result of the Great Prestel Hack and BT's, sorry again, Regina's prosecution of the case has been to make the two gentlemen in question very well known experts and writers about computers and especially about their security. That same issue of PCW also contains Robert Schifreen's review of Amiga WordPerfect and Steve Gold's new column, Computer Answers. Just as anyone who has climbed Mount Everest, regardless of their climbing style or, perish the thought, luck involved, can thereafter make a decent living writing

about mountaineering, so Steve Gold and Robert Schifreen now have good careers ahead of them in the computer field thanks, in no small measure, to BT and Prestel. Likewise their barrister, Alistair Kelman, is also now even better known for his knowledge of computer law and is being consulted with ever increasing frequency by those in need of a good 'mouthpiece' who not only understands high-tech toys, but can talk to wigged gentlemen at the same time. There are a lot of lessons buried in this tale.

Passwords

In the above mentioned PCW article about communications security and the Great Prestel Hack, passwords were discussed. The authors give two rules for password security systems. Rule one is that everyone must use one and rule two is that they should not have fewer than six characters.

I agree wholeheartedly with their first rule, but the second one has some adverse side effects associated with it. To understand what complications can arise when long(ish) passwords are used consider the following person living in the UK today: he uses a computer at work, owns one at home with access to two communications networks, has both bank and building society accounts, and takes his holidays abroad. We shall call this person Mr AUC (Average User of Computers). Mr AUC has been given two four-digit passwords for his 'hole-in-the-wall' cards for his building society and his bank. Now, Mr AUC is conscientious about his passwords and realizes he should select new ones to replace the temporary ones he was issued. He also doesn't want to write them down to carry around so he selects ones that he can remember easily. He chooses the House numbers of both sets of his grandparents, say 57 and 14 to make 5714. His own birthday, house or 'phone numbers are not very good choices, so he avoids them. So far so good.

Since Mr AUC takes holidays abroad he decides that he would like a hole-in-the-wall card to use abroad and duly acquires a Eurocheque Card with another four-digit password. Mr AUC now has a problem: he cannot change the password which was assigned to him. Eurocheque Card makers didn't allow for that. So he tells himself "Well, I'll never remember 6932 which was the one they gave me so I guess I'll have to write the password down somewhere. Maybe if I carry the Eurocheques and password while the wife carries the hole-in-the-wall card things should be fairly safe". Life is like that, full of small compromises and the odd little white lie.

Mr AUC has also joined both Prestel, which has a four-digit password, and another network (let's say Compunet since this is ICPUG) which has a six-digit/character password. Mr AUC continues to use the 5714 password for his

Prestel account and decides merely to add the first two letters from his mother's maiden name. This is beginning to infringe on one of the 'no-no's of security, that is: don't use your mother's maiden name as a password. The reason for this is that many organizations use it as an authentication check when someone calls up by phone. Anyway, Mr AUC now has five passwords to use, three he made the same and easy to remember, one is a variant and also easy to remember and one has to be written down. But since it is stored at home in a locked desk this doesn't worry him much.

Now at his place of work the security chaps have come up with their own password system to access his portion of the company database and financial records. The company system uses a nine-digit/character password and must be changed monthly. The company also uses Prestel to obtain the latest share prices and for employee travel data. Another four-digit password to remember. In addition they use PSS for sending messages to their US branch office. The PSS password requires 12 characters and somewhat like our Eurocheque friends this cannot be changed by the user. Mr AUC has now long since given up trying to remember all his passwords. He remembers his personal bank, building society and two home computer passwords because they are easy. The rest are written down, his Eurocheque card number at home and all the company ones in the Filofax his wife gave him last Xmas to replace all the slips of paper with funny numbers which she and the dry cleaners kept finding in his pockets.

One Friday after work Mr AUC goes to the wine bar near his office with the rest of his department to celebrate the retirement of a colleague. His Filofax (which is in his briefcase) along with two other briefcases and a secretary's handbag aree stolen from the cloakroom. The police are notified as are the banks and credit card companies involved. But, of course, no-one does anything about the passwords. That would have meant embarassing questions from the Managing Director.

When everyone arrives at work on Monday the damage doesn't look too bad, their comms account has only had £1256.98 added to it and the financial director says that the only file which appears to be altered is the MD's personal salary data; for laughs, the hacker has knocked two digits off it. It isn't until the following Friday they find out that all incoming messages had been erased. The one that hurts is an urgent message requesting a revision to their original quotation on the almost certain £2,000,000 Saudi Arabian contract. As the deadline was previous Wednesday for revised quotations the contract is lost. Six staff along with Mr AUC are made redundant the following month.

My recommendation on passwords is to keep their length standard and all of

them memorable. There isn't going to be less of them about in the next few years so the problem will get worse. Consequently, I like ones of four-digits and seven-digits. This will allow one to use the four-digit ones for most applications, changing and remembering them as required. The seven-digit ones may be added in tandem to the four-digit ones for areas where greater degrees of security are required.

One last point: to rely on passwords alone for security is to invite disaster. Locks and keys are also very useful in this regard.

Super* Corner

Due to a heavier than normal workload I have not been able to write or edit the normal Super* Corner for this issue. Rather, an article by Peter Hauke on using multiple files to allow multiple key access to a database is printed in lieu thereof. I hope to have the full Corner back in print in the next issue.

I have been editing the Corner for over a year now and the task of writing it along with Jim's Jottings and various review articles on top of the Chairman's job means that if someone out there volunteers I'd be pleased to hand the editorship of this Corner over to them. The editor of Super* Corner doesn't have to be an expert in Superbase and Superscript, just collect bits together for the Newsletter column once every other month. Contact either myself or the Editor if even mildly interested.

Black Monday

I guess you can blame me for the recent stock markets crash around the World. I was playing around with two share investment programs from Abacus Software called Personal Portfolio Manager (PPM) and Technical Analysis System (TAS) which Precision Software were thinking about importing into this country. No sooner had I finished my review when what should happen... the market collapsed.

I ought to mention that one of the things which PPM has built into it is an entry for the Stop/Loss Price of each share. That is the price at which one should sell shares in a particular company to preserve one's capital and prevent overly large losses. In all the major stockbroking Aouses throughout the world similar automatic stop/loss routines have been built into their computer dealing packages. These routines cause a share to be sold automatically when the price drops to a predetermined level. But since everyone else also has these routines in their software a rather modest drop in price may trigger one large investor to sell a large block of shares thereby depressing the price still further and leading to an avalanche effect. My own opinion is that it served the brokers right to loose their shirts when they place

computers in the role of decision makers. Computers should be viewed as very fast and efficient village idiots.

Anyway, I thought that PPM was on the whole a suitable package for sale in the UK. (TAS relied too heavily on information downloaded by modem from the Dow Jones News Service to be of widespread use on this side of the Atlantic.) The markets evidently didn't like my opinions and promptly reacted by crashing. Maybe I should have kept quiet. Anyway, all the punters have now lost their shirts and so cannot afford to buy PPM. This means Precision probably will have many unsold PPM packages come next summer. And that's a pity as PPM is an interesting little program for investors. And it would be very handy for the share recovery which is bound to come (says me hopefully waiting for my BT, Gas and TSB shares to recover).

A couple of other new items

In addition to the two investment programs mentioned above Precision Software also furnished me with some other items they are, or were, planning to sell. First is the book and accompanying program disk entitled "Science and Engineering for the Commodore 64" again published by Abacus Software. This is a translation of the German version and contains more than its title indicates. It starts off with a chapter about programming techniques and the differences between BASIC, Pascal, ADA, FORTH and Logo. It then has two more chapters on programming (in BASIC) covering items such as input and output, relative files, vectors and matrices along with various sorting routines. Next it contains Maths, Chemistry, Physics, Biology, Engineering chapters followed by a brief discussion about simple CAD (Computer Aided Design) on the 64.

This book won't teach you any of these subjects but if you are interested in any of them them it may save you reinventing the wheel when developing your own Fourier analysis, integration, optics, thermodynamics, etc. programs. It is a useful reference work for those orientated in that direction. Too bad it wasn't on sale a couple of years ago when the C64 was a new machine.

Another book also from the Abacus Software stable is entitled "The 1541 Repair and Maintenance Handbook". This book I do <u>not</u> recommend. It has just too many problems, I'll list just a few.

1) The style is awful, partly because of poor translation out of the Data Becker GmbH version in German and partly because of the writing itself. The author may know how to fix 1541 disk drives but he cannot express himself well. For example on page 6 section 2.3 it says, "In addition, we warn you not to undertake a modification of the stop ring -4- in which a bore is made through the step motor shaft and the stop ring or if the stop ring is secured

with a cotter pin." I don't know what the last part of that sentence means.

2) There are numerous reference errors in the book. Both textual references as well as ones for figures are very badly done. Chapters and sections are apparently interchangeable terms and they reference nonexistent sections and figures. For example: The reference under "General care every 4 months" on page 4 says "Oil the track designated with 10 in Figure 10". There is no figure 10 in the book. Possibly it means item 10 in figure 1 but then that is shaft and not a track. Another example: On page 8 section 2.4.1 in the last paragraph where it refers to the VIC-1541 user's guide on pages 26-28 for further information about "sync characters". I examined both the old, silver covered VIC-1541 User's Manual and the new, black covered 1541 User's Guide shipped with 1541 disk drives and neither one has any mention of this subject on pages 26-28. In fact the only place I can find sync marks and characters mentioned in these CBM manuals is in Appendices B and D and even then there is no explanation to the reader about what these are.

3) Parts of this book (pages 70-74) appear to be photocopied from another, unidentified document, possibly of German origin. The original, unidentified document page numbers were left in the figures and I could find no acknowledgements of the copyright on these copied pages anywhere in the book. In one section the author even starts referring to things like "Page 1 (figure 11)" which is really found on page 70 of the Abacus book. "Page 1" in this case refers to the original page number of the document from which he copied the figure. This appears to raise both legal and ethical questions.

For those readers who already understand the 1541 disk drive these errors may not present too great an obstacle. But for the person just beginning to repair his non-functioning 1541 for the first time these errors will cause things to go from bad to worse. Mick Bignell at Microport (see below) wants business fixing disk drives but not even he would be able to cope with as much business as this book will generate by DIYers following its advice. I'd recommend giving this item a miss.

At the same time as I collected the above from Precision Software I picked up another Abacus book, the "Quick Reference Guide to MS-DOS". For those members with PC 10s, 20s or other MS-DOS machines it looks like a useful item. It won't teach you MS-DOS but after reading a large MS-DOS manual it is useful for remembering the syntax. It also shows that unlike the above Abacus and Data-Becker can produce a readable book if they try.

A few of my favourite things

As it is that time of the year again when presents are traditionally exchanged and in anticipation of this issue of the Newsletter reaching members in sufficient time, I shall list a few of my favourite computer things which may be useful additions to Christmas stockings. Members may wish to make photocopies of this page and leave them in strategic locations around the house where Father Christmas might just be looking. I'll start with the least expensive ones first and then proceed on to the sublime and the ridiculous.

To start off I must include Tom Cranstoun's Utility Disk for the Amiga at £10. I mentioned this items in the last issue and find its Print program very useful for formatted output of Amiga files. Tom is at 107 Dalmally Road, Addiscombe, Croydon CR0 6LY. Also at the lower end of the price range I would include a 10, 12 and 15 pitch rule. A couple of years ago I looked everywhere for a rule with multiple measures on it divided so as to indicate 10, 12 and 15 characters per inch across the page. For certain word processing functions and filling-in of forms one needs this type of rule desperately. Finally someone gave me one produced by Phillips which they apparently furnish people who attend one of their word processing courses. But now Thurston Brown Associates (tel: Exmouth 277496/68385) have produced an 8 inch rule for sale at £1.75 each which has 10, 12, 15 and 17 pitch divisions on it. Now I only wish someone would also add separate 6 and 8 pitch divisions for measuring down the page when using those lpi settings.

For any who don't already have a copy, Rae West's Books on the PET, VIC20 and CBM64 would make wonderful presents. And if one wishes to delve deeper into Commodore DOS then the book Inside Commodore DOS would be very useful. While on books, Amiga owners who want to start serious programming would go wild over a copy of the Ariadne Software Ltd. book entitled The Kickstart Guide to the Amiga.

Finally rounding out the cheap and cheerful end of Xmas gift list is Mini-Office II whose review was in the Sept/Oct issue. At the ICPUG discount price this package is a real bargain even if you don't need all the facilities it contains.

Moving up to the middle price range in my list of favourite things I should include a 128K printer buffer. Dimension Computers sent one to me for review some time ago and now I don't know what I'd do without it. Unfortunately, Dimension no longer stock the item but there is an advert for what appears to be a similar item from Meedmore. The one I use was produced by Wiesemann & Theis GmbH in case that helps.

Print Shop on the 64 is liked by everyone who has ever used it and I'd be remiss if I didn't include it on this list. Likewise, 8-bit Superbase on the 64, 128, Plus4 and PET is almost everyone's favourite database and VizaStar is

certainly my favourite spreadsheet for the 128.

It is a bit more difficult to name one favourite word processor. I find Superscript 64/128 easier to use and it has the unique ability to be integrated with Superbase but VizaWrite Classic 128 has more powerful printer capabilities. In the end I suspect that personal preferences play a large part in choosing a favourite word processor and either would be welcome gifts.

Turning our thoughts to hardware, if I needed an interface or adapter I'd hope that Father Christmas would make a short stop over at Brain Boxes and pick something up for my stocking. Brain Boxes at telephone (051) 427-1526 simply are the best; their service is first rate. The other day around 1 PM I rung them up and said "I need a custom RS232 cable from an Amiga 1000 to a Hewlett-Packard LaserJet printer with pins 2&3 crossed and 5&6 connected to 20". I had the custom lead on my doorstep around 9 the next morning complete with a neat handwritten pinout diagram for reference.

Likewise if something needed repair I'd like to see it loaded on Santa's sledge with a label marked 'Deliver to Mick Bignell at Microport'. Mick's telephone is (01) 953 8385 for his London location or (077836) 433 for his Greatford (near Peterborough) shop. I don't let anyone else touch my disk drives or my PETS. The rest of the ICPUG National Committee feel the same way as I do about this.

For Amiga owners a copy of Racter in the stocking would go down very well. I find myself 'talking with Racter' more often than any psychiatrist would think good for my health. Moving upmarket on the same machine, WordPerfect has to be my favourite for serious writing on the Amiga. I do wish they'd hurry up with their Anglicized version of the dictionary though. For others with somewhat less friendly bank managers Desktop VizaWrite would probably be welcome. But again, I wish Viza would hurry up with their dictionary and additional printer drivers.

For those with either lots of money or a very rich uncle, a Hewlett-Packard LaserJet printer would go nicely under the Christmas tree. After playing with it you'll never want to go back to an ordinary printer again if you can help it. As for myself, when I cannot con the editor into letting me borrow the LaserJet and I need letter quality the Juki 6100 (along with its CBM version, the DPS 1101) remain my workhorses. Both are selling at reasonable prices nowadays.

Finally there is one thing which I hope might appear Christmas Day in a package with my name on it. That is some extra RAM with a battery backed up clock for the Amiga 1000. A 512K Amiga just doesn't have enough RAM; one megabyte should be considered minimum and two would be much better. All 68000 machines and operating systems such as the Amiga need much

larger amounts of RAM than the older systems like the PET, 64 or 128 required.

I could go on but to do so would make me appear to be greedier than I really am (or at least more than I'd like to admit to). Again, Seasons Greetings. I hope to see all of you in the New Year. Don't forget to renew your ICPUG membership. Being an amateur group run by volunteers we don't send out reminders to keep the costs down.

***

CALLING ALL PET OWNERS

There have been several letters to the Editor complaining of a lack of Newsletter articles about the older machines. At a recent committee meeting, I noticed that a significant number of new members were PET owners and I resolved to try to help them.

Starting in the January/February Newsletter, I intend to produce a series of articles about the PET range. I loosely define the PET as the 2001 to 8296 range of machines, with the 700s as 'hangers-on'. I hope to include a number of hints and tips in each article; the sort of thing that never appears in manuals (but everybody knows it anyway! Or do they?). Topics already scheduled include:

Background/history
Use of ASCII printers
BASIC 2/4 and 40/80 column
Toolkits (or making life easier)
Packages (Word Processing, Databases, Spreadsheets)
Disk tips and tricks
Some features of the 8096/8296

If any PET members would like me to include a specific topic, please drop me a line (with an SAE for an immediate reply). You will find my address in the Library section on the back page of the Newsletter.

Joe Griffin

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EXHIBITIONS REPORT: 10th PCW SHOW

by Janet Bickerstaff

The 10th PCW Show (Olympia, September) was one of the busiest we have known with many visitors to the stand bringing all sorts of questions and problems to be solved. The total attendance at the Show was 72,783, and we took 118 new memberships for 1987 with 24 renewals and memberships to start in 1988. The first two days were, as usual, for trade only, which gave the stand workers a chance to look round before the big rush at the weekend. Thanks to all the willing helpers, many of whom had taken a week off their annual holiday, the stand was well staffed and the pressure not so great as at the Commodore Show in June.

The biggest strain was the deafening noises emenating from some of the neighbouring stands. Some of us were put off Grand Prix for life after enduring Murray Walker's commentary of Nigel Mansell winning the British Grand Prix for the hundredth time. Luckily we discovered the whereabouts of the volume control switch. We were fortunate in having our friends from Compunet just across the aisle, as we were jointly showing Compunet running on the Amiga for the first time. This will be launched on the 1st December and created a great deal of interest, keeping some of our volunteers amused for hours!

ICPUG Raffle Prize Winners:

410014	F.J. Bickerstaff	Firshman Mains Power Cleaner
410357	D.J. Viner	Commodore 128 Companion by Tim Arnot
411956	D. Gortmans	Designers Pencil for 64
412415	A. Korobowicz	Introduction to BASIC I & II
414537	J.L. Clarke	Mart Star
414646	G.W. Aukland	Swiftcalc for the 128
414762	K.E. Buckmaster	Personal Finance for Vic 20
414902	D. Mills	Introduction to BASIC I & II
418405	M.F. Young	Money Decisions II for Vic 20
418930	F. Amiri	Beginning Micro-Prolog
418961	L. Tanner	Plus Forth by Richard Hunt
418965	A.A Panjwani	Tim Arnot's Mouse Mat for Amiga
418976	I. Jeffrey	1 Year's subscription to ICPUG
418997	A. Lovcaides	The Personal Robot Book
419023	J.Howes	Paddington for the Vic 20
419026	A. Phillips	Microman by Gordon Pask

As far as we know, our next main event will be the Commodore Show in June 1988 (date to be announced) but the ICPUG South East group will be having another get-together in April at the Queen's Armes Hotel in Charmouth. At the first Weekend break held in October members took fourteen computers, all in use at the same time, plus the laser printer, printer/plotter, synthesizers, and so on. It was a great success and National visitors came from the surrounding area. The next PCW Show is to be held 21st-25th September 1988, at Olympia.

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THE FIRST DESKTOP PUBLISHING SHOW

The first Desktop Publishing Show, organised by Database Publications, was held at the Business Design Centre in London from the 15-17th October, and featured the latest in electronic typesetting technology. Systems on show ranged from the simple and inexpensive (Newsroom) to the complex and costly (Scan Logic) with laser printers anywhere between £1700 from Canon and £230,000 from Rank Xerox. Standard DTP setups included an image scanner for graphics input, typesetting and page layout software, and a 300 dots per inch laser printer, producing text to the same quality as that which you are now reading. More expensive enhancements included high quality big-screen monitors and flexible Optical Character Readers capable of "learning" an almost unlimited range of typefaces and then reading A4 pages of text in around a minute.

Demonstrations of current and new systems and packages were available from all the leading DTP companies, including Apple with PageMaker and InterLeaf for the Mac II, and IBM's Personal Publishing System. It was disappointing to see an almost total lack of Commodore equipment apart from those machines being used to run CBM versions of software on the Mirrorsoft and Springboard stands. However, Burocare, a company who specialise in "custom" DTP setups for all requirements, were demonstrating Artisan, a designer's work station, running on an Amiga 2000, chosen for its unique graphics capabilities. Artisan can accept input from a wide range of sources such as videos, photographs and on-screen free hand drawings. These can then be manipulated with editing software, sequenced into automated illustrations, or even assembled into three-dimensional models. The final image can then be output to disk, video, slides, 35mm negatives or a wide variety of printers.

Bill Bremner

COMAL STANDARDISATION MEETING - SEPTEMBER 1987

by Brian Grainger

Part of my summer holidays this year were spent in Blackrock, a small town in the vicinity of Dublin. My purpose was to attend the second COMAL Standards meeting of 1987. This meeting was held courtesy of the Irish Education Authority and must constitute one of the landmark meetings in the progression of COMAL standards. Prior to the meeting we were distributed with proposals from 6 different organisations:

RC Computers and John Clack (Group Secretary) produced separate proposals on changing the rules of the groups. I mentioned these in the report of the last Standards meeting.

Peter Burkinshaw (Telenova) made 3 proposals, including yet another on print separators.

UniComal, RC and DDE made a joint input of 22 proposals which made up the definition of COMAL Modules.

Myself, representing UK COMAL Users, made 40 proposals to add a Graphics extension to the COMAL standard.

COMAL Users Group USA/COMALites United made a joint document of 66 proposals based on a previous version of the standard.

As you can see there were a great deal of proposals to discuss with a very international interest.

At the meeting itself 10 members attended all the sessions with 3 others taking an interest on a part time basis. It took place in the very pleasant surroundings of a former teaching college run by nuns. 4 implementors were represented, UniComal, RC, Telenova and DDE. I have introduced these organisations in previous reports so I will make a mention of 2 new Development Group members. I suggested Peter Crowder, ICPUG Software Distributor, might like to attend. I am pleased to say that his employer Charles Evans, who has been using IBM COMAL, funded Peter's trip, so providing a voice from the COMAL business user community. The other newcomer to the ranks that I met at the meeting was John Kelly. John is a teacher who has written a book called 'Foundations in Computer Studies with COMAL', which unfortunately is not available in England.

Having elected John Kelly/Bill Hyland as joint Chairmen the meeting got underway by discussing the proposed rule changes. This was supposed to be

a ratification of the discussions from the last meeting but as usual there was some additional points to raise. In the end all bar one of the proposals were agreed. Having changed the rules the rest of the meeting could be carried out with the new rules in place.

One of the major problems that the group has had to contend with is that an up-to-date version of the standard has not been available for quite some time. Many members, including myself, were concerned at this since there are times when we are not sure what we are discussing. An agreed timescale for producing a draft up-to-date standard and discussing it was agreed. It is expected that the draft will appear in December with final ratification at the next Standards meeting. I expect to get a copy.

Modules

The next topic of conversation was modules. It is a little difficult to describe modules. The closest we have got to them with existing versions of COMAL is the package concept in the COMAL cartridge. The purpose of modules is defined as (1) to allow the specification of logically related functions, procedures, and their data structures; (2) to conceal and protect the inner workings of these entities from their users. Modules, like procedures, can be internal or external to the program. Obviously when internal they are written in COMAL with additional keywords to aid their definition. When written externally they may be written in COMAL or any other language that the implementation may support. As you can see they are much improved over the package concept which could be written in machine code only. I'm pleased to say all the proposals relating to modules were passed unanimously. COMAL now has a means to expand the language defined in the standard, a very important milestone.

Graphics

Next on the list of discussions were my proposals on graphics. What I did was to take a look at the three major COMAL implementations, UniComal, Telenova and RC and take the common portions as the proposals. This meant that the major high resolution graphic commands along with the turtle graphic commands were all included. There was a lot of discussion on the meaning of VIEWPORT and WINDOW especially when used in conjunction with SPLITSCREEN. There appeared to be two different interpretations of WINDOW and VIEWPORT depending on whether you simply viewed it as defining an area with suitable scale or whether you viewed it as a portion of the wider universe. The acedemics took the latter view and I confess I do not fully understand it.

Nevertheless, agreement was finally reached and they became part of the standard.

PLOTTEXT also had a fair amount of discussion, mainly due to the fact that certain members preferred other keywords. This proposal actually failed in the Development Group. However the Standards Group could still vote and after voting on various keyword options PLOTTEXT was finally agreed by the Standards Group irrespective of what the Development group thought.

At the final count 38 of the 40 graphic proposals were accepted with only SPLITSCREEN and FULLSCREEN not adopted. With the advent of windows becoming more versatile on newer computers it is perhaps not such a bad idea to avoid restricting ourselves to these commands. We can look to more versatile commands to control windows properly. I was very pleased with the final result. COMAL now has standardised graphic commands which include all the turtle graphic features that people like about LOGO. There is now absolutely nothing that LOGO can offer over COMAL.

Separators

Next on the list of proposals was the inevitable print separator problem, in particular what to use as a null separator. As usual there was a lengthy discussion. The proposal this time was to use '?' as a null separator, (i.e. equivalent to ',' with a ZONE of 0) but this was firmly rejected. A proposal for ':' as a newline seprator was almost as firmly rejected. It now seems that a null separator will never become a standard. UniComal are firmly committed to an approach which should have been chosen if we knew at the beginning what we know now. The rest are just as firmly committed against the UniComal approach because it invalidates all that has gone before.

A final proposal by Telenova was to have a string multiplication function:

STRING$(<string expression>,<numeric expression>)

which would return a string where <string expression> is concatenated with itself <numeric expression>-1 times. This also failed. I much prefer the UniComal approach of simply using '*' as a multiplier. This proposal failed at the Portsmouth meeting so I guess this is another function which will never be standardised.

USA proposals

The final set of proposals were those from USA COMAL Users Group Ltd. Len

Lindsay proposed a rewrite of a version of the standard that he had. There were some 66 changes of which 18 were accepted. The majority of those that failed were not rejections of new facilities but rejections of suggested clarifications which did not fit into the way a standard is written. The 18 accepted were in similar vein although the PAGE command which was proposed at Portsmouth was now formally voted on and accepted.

The main business over the rest of the meeting was devoted to discussion of any topic that was of interest. Angus Quin sent a paper to the meeting on CLASSES. These are analagous to records in Pascal or 'C' structures but with procedures or functions included. Angus considers that CLASSES enable complex systems such as window managers and databases to be designed. This could lead to an 'object oriented' COMAL which Angus considers is essential. I must admit I do not understand too much of this at the moment but as future discussions develop the theme I perhaps will understand more and be able to pass the understanding on via these reports.

As you can see from the above the meeting covered many more proposals than normal. With the graphics and modules proposals being accepted there were many more accepted than is usual as well. Not just that but they were fundamental enhancements important to the future of COMAL.

Away from the meeting I had the opportunity to see a bit of Dublin (I had never been there before), sample some real Guinness, accept the hospitality of a meal from the Irish Education Authority and witness a most amazing spectacle. I mentioned that the meeting place was in buildings run by nuns. In addition there was an ecclesiastical conference going on at the same time as ours. This was attended by many nuns, priests and monks. One evening, after our own meetings had finished, we decided to go to the common room for something alcoholic. When we got there we found that a typical Irish folk band had been booked and the delegates to the other conference were having what could only be described as a celidh. Priests and nuns were called on to do their party pieces and the evening ended with them all doing the Hokey Cokey! The image one has of such people, especially monks in their habits, does not tie in with them doing the Hokey Cokey (except perhaps in a Dave Allen show!). I do not think I shall forget that for a long while.

The next Standards meeting is preliminarily scheduled for the Spring, probably in Sweden.

***

THE SERMON ON THE COUNT

Written by Peter Burkinshaw
collected by Brian Grainger from Dublin COMAL Standards meeting.

Blessed are the loop makers,
- for they shall have readability.

Blessed are those with constant limits,
- for they shall have peace of mind.

Blessed are those who count from one,
- for they shall have simple DIM statements.

Blessed are those who count in ones,
- for they shall need no STEP.

Blessed are those who count in zeros,
- for they shall have a run-time error.

Blessed are those whose control variable is pure and unassigned,
- for they shall reach the statement after the NEXT.

Blessed are those who re-use the same control variable in nested loops,
- for they shall have a structure error.

Blessed are those who do not reference the control variable,
- for they shall enter the kingdom of the LOOP statement.

Blessed are those with humble, single-line FOR statements,
- for they shall have less execution time.

Blessed are those with integer# control variables,
- for they shall have even less execution time.

Blessed are the WHILE, and REPEAT .. UNTIL writers,
- for they shall not have time to read this rubbish.

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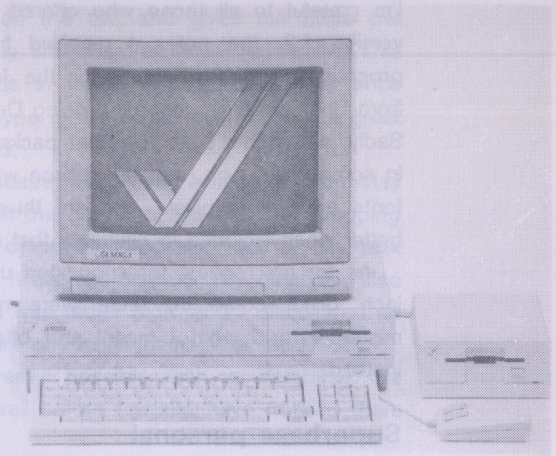

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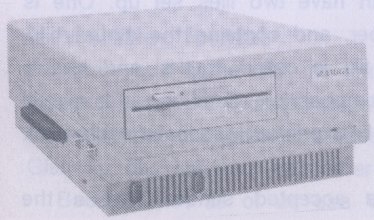

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MIKE'S MEANDERINGS

by Mike Todd

I'm grateful to all those who offered advice on Flight Simulator running with version 1.2, the notes I received from several members about the small programming problem I posed in the July/August Newsletter, and the comments from Brian Grainger regarding using Deluxe Paint II and getting better printouts. Sadly, although it's an excellent package, I still find DPaint II a little restricting in some ways - oh, and the reason why I'd prefer LARGER fonts is that larger fonts have more pixels, and are thus better formed and so look very much better when included in diagrams that are to be photo-reduced.

As for my request for suggested uses for those little plastic bags that 3.5 inch disks come in, there were none! However, at least one member misunderstood what I meant and offered suggestions for the plastic BOXES instead.

Superbase personal

In my Amiga-Watch column, I've mentioned some criticisms of Superbase Personal. Despite these criticisms I am continuing to use it more and more.

For instance, I am currently cataloguing all my records and Compact Disks - not just individual disks, but track by track. This is a total of over 300 LPs and 100 CDs - and will result in a total of over 5000 tracks catalogued.

Using Superbase's file linking facility, I can have two files set up. One is called 'albums', indexed on the record number, and contains the album title, artist record label and so on. The second file is called 'tracks' and has a record for each track giving title, artist, composer(s), duration and record number. By linking the two files together, my final printout can have each track listed with its record number AND record title.

Whilst not a relational database in the accepted sense (despite the advertising claims), Superbase provides an invaluable file linking feature. Unfortunately, it is really only of use when it come to writing a report or using the QUERY feature. It would be wonderful to be able to display a mixture of fields from a couple of files, and edit them in the normal way. Maybe Superbase Professional (out any day now - or so they keep saying) will be able to help. Some of my other databases are slowly being transferred from my 8296D version of Superbase. I'm doing this by exporting on the 8296D to a file, using the record and field separators option to set specific separators that are not going to cause confusion. I then use a communications terminal program

on a 710 to read the file and transmit it down the 710's RS232 port to the Amiga running a terminal package in 'ASCII capture' mode. Finally, I import the resulting file into the Amiga Superbase, setting the separator options according to the separators defined on the 8296D.

When I get Superbase Professional, I'll be able (I hope!) to transfer all those complex databases that rely on programming, such as my car analyser database (which takes all expenditure on the car, and gives me miles per gallon, cost per mile and so on) and my time-sheet/expenses database. This latter database needs to use time fields in hours and minutes and, since Superbase doesn't provide such a field type (not even on the Amiga!), a great deal of extra field programming is required.

I might add that the car analyser database has proved invaluable. Last May I spotted that the mpg as calculated from the day I got the car was dropping slowly. Investigation showed that I'd a cylinder-head gasket with a tiny leak and so I was able to change this before it became serious. The database also showed recently that my oil consumption was rather high, and I discovered an oil leak which was similarly put right before any major damage ensued.

This sort of trend analysis, only really possible with a database like Superbase, has helped spot problems well before I would have noticed them otherwise.

Finally, before leaving the subject of Superbase, can I reiterate a plea for TIME fields which are needed in any time-sheet application, or even in my record collection where track duration is required. It is posible to program around them, but this is exceptionally cumbersome and shouldn't really be necessary.

Newsletter format

I'm sure you'll agree with me that the 'new-look' newsletter, using the Hewlett-Packard Laser Jet Plus printer with VizaWrite Classic, looks very neat indeed. However, the change-over process, started with our previous editor, Hugh de Glanville, has not been altogether painless.

Because not all of us use VizaWrite (I use WordCraft version K on my 8296D), we have to supply text in ASCII format which VizaWrite will read.

Unfortunately, this causes three problems. Firstly, formatting included as part of the original word processor must go - VizaWrite, like all word processors, has its own method of formatting and this is virtually impossible to allow for in the transfer process. It could be done with some clever programming by the authors of VizaWrite, but there are just too many other word processors to take into account.

Secondly, many word processors (including WordCraft) do not store text in

ASCII format. Instead, they produce strange file formats containing odd control sections, headers and non-ASCII text. The only way many of these packages will produce ASCII text is to write to a file instead of printing to a printer. WordCraft has an ASCII file option available, and will produce a raw ASCII file, with a carriage return at the end of each line and with formatting done with spaces wherever possible. This means that, once loaded into VizaWrite, all these trailing carriage returns must be removed. [Since discovering the very powerful SEARCH facilities of VizaWrite Classic, I am able to by-pass this problem (in Mike's case anyway) by SEARCHing for carriage returns followed by three redundant spaces, and REPLACEing them (all in one go) with one space. Paragraphs can then be re-instated by SEARCHing for extra spaces and REPLACEing them (again, all in one pass) with a carriage return followed by two spaces, providing an indent to the start of the paragraph as well - Ed.]

Finally, for no good reason that I can see, VizaWrite strips off double quotes from any ASCSII text that it reads. As a result, listings and text lose some of their sense. The Sept/Oct newsletter suffered badly from this (see especially pages 428-435) and there doesn't seem to be an easy solution.

The suggestion is to replace double quotes in any text by a double single quote. Sadly, the single quote in the new newsletter is an apostrophe and looks very odd when doubled to make quotation marks. Perhaps the problem needs approaching from the other end - VizaWrite needs to be capable of accepting quotation marks. As I've said, I see no good reason why it shouldn't - all other word processors that I have which allow ASCII text to be imported allow quotes with no problems whatsoever. [Again, less of a problem nowadays. If contributors are willing to REPLACE all quotation marks (") with double aphostrophes (' ') before the article is sent to me, I can re-instate the quotes using REPLACE - Ed.] The only limitation is when it comes to printing quotation marks on some Commodore printers; these take any control characters within the quotation marks and produce printable characters instead.

The problems that all this causes cannot be making the new editors' jobs any easier - and certainly makes my life as a contributor very difficult. The authors of VizaWrite should take a hefty wrap over the knuckles for such an amateurish ommision in such a professional package.

ASCII standards

While on the subject of ASCII text, did you know that the ASCII character set doesn't contain an apostrophe or single quote? Nor does it contain an upward arrow.

These characters have crept into popular interpretations of ASCII (and other international character sets) and have CHR$ values of 39 and 94 respectively but are, in proper ASCII, an acute accent and a circumflex accent.

The circumflex is the character that creates the greatest confusion. The Teletype corporation (one of the first teleprinter manufacturers) were the first to make it an up-arrow for use in BASIC as the exponentiation sign. However, in FORTRAN, exponentiation is indicated by double asterisks and some French-speaking countries preferred the FORTRAN versions of the Teletype machines to allow them to differentiate between words such as 'cote' - three different meanings (a share, hill or direction) depending on where the accents are.

The underscore has had an equally chequered history - it is an essential character in ASCII, but has been replaced by Teletype with a back-arrow and this still exists on some computers and terminals (including Commodore's - apart from the Amiga).

The story of ASCII is a fascinating one - a huge amount of thought went into creating the character codes, and to allowing individual countries to make their own modifications to certain characters to allow for their own quirks. Several related character sets (some which accept the apostrophe!) are also in common use (ISO-646, ANSI X3.4- 1977, BS4730, CCITT V3 alphabet number 5 and, in the USSR, GOST 13052- 67) and their similarities and differences make interesting, and sometimes very confusing, reading. I feel an article coming on...

***

TRANSACTOR FOR THE AMIGA

The official announcement will not arrive until the next issue of the TRANSACTOR magazine, but the decision has been made - beginning in January there will be a separation of TRANSACTOR material on the Commodore and the Amiga machines. The first TRANSACTOR FOR THE AMIGA will be published in January and alternate months thereafter. The traditional TRANSACTOR for the 65xx machines will continue to come out on even numbered months. Final details on cost, etc., will have to wait for the formal announcement.

Mike Todd spoke of the TRANSACTOR in one of his recent articles. We agree with him. The TRANSACTOR is one of the very few magazines available for people who want more than reviews and games. There are more pages of programs written in assembler in the TRANSACTOR than in any other magazine I have ever seen. More recent issues have been presenting programs in C and 68000 assembler for the Amiga. Currently, the TRANSACTOR is available only by subscription. I believe Mike gave the details in his article in the July issue.

Betty Clay

PERILS OF PORTIA, AGNUS & DAPHNE - 5

by Brian Grainger, Jacob Ellis & Pat Bomyer

I am aware that this issue of the Newsletter has a lot of other Amiga material in it so I will not cover too much myself. I have had a couple of letters which make some interesting points and a report of a real 'Peril' for software pirates.

Peter Blair wrote to tell me of a possible solution to the amount of time I have to wait for my customised workbench to boot up. He found that the disk head kept going backwards and forwards if he executed 'LoadWb' (in the s/startup-sequence file) AFTER a 'Date ?'. He suspects that the multi-tasking capabilities of the Amiga was causing this. When he put the 'Date ?' command AFTER 'LoadWb' his disk took only a few seconds to boot up. He also tells me that the Workbench 1.2 he was supplied with had an 'AddBuffers 20' in its startup sequence. This speeds up disk access.

The second letter came from Jacob Ellis. It expands on my comments in earlier articles about the way the Amiga 1000 runs certain software differently from more recent Amiga models. I reproduce his letter in full.

'I just got the ICPUG magazine today and read with interest about your problems with Flight Simulator II. I've found it works OK on every Amiga running v1.2 except the A1000 (which I have). So after experimenting a while I found out that if you hit CTRL-D to break out of the startup-sequence batch file before the first command is executed, and then type "loader" followed by RETURN everything will work fine (although for some strange reason it doesn't always work the first time, just re-boot and do it again 'cause it always works the second time).

I believe you are right about the differences between the A1000 and the other Amigas using the v1.2 operating system, although I'm not sure what the differences are. One thing is that I seem to have less memory under v1.2 than I had when v1.1 was running. When I'm using VIP Professional I have about 10-20K less memory under v1.2 (but the graphics are faster). Also Leader Board gives me 'out of memory' gurus under v1.2. One other problem I've had is that Instant Music doesn't perform file I/O under v1.2 on my A1000, but on a friend's A500 it works perfectly. I know it's not the old 'not in chip memory' problem because I haven't got any fast memory. It makes me wonder what the differences are, although Commodore say there isn't a difference:

...the A500 and the A2000 ROM are identical to the code that ends up in

the Kickstart RAM of an A1000.

David Haynie, Commodore Technology
(Byte Magazine, August 1987)'

Warning

Now for a real peril! Many of you will have seen adverts for various commercial Amiga disk copiers. The two most notable are 'QuickNibble' and 'Marauder II'. I have also seen copies of a disk which combines these two copiers along with other copiers and disk utilities from a group calling themselves 'The Light Circle'. Since the disk contains two independent commercial programs I can only assume it is a pirate disk. This disk appears to contain a very impressive bootup system which is very fast. However, from reports I have received there appears to be a sting in the tail. The bootup system appears to contain a 'virus'. The explanation goes something like this: when you boot up the Light Circle disk it puts the virus code on the boot track of any disk it sees at the time. It is not clear whether it will do this to any new disks that may be inserted AFTER the virus disk is booted. Once the virus code is on the new disk it will perform the same function as that disk is booted up. Consequently the virus will attack all your non-write-protected disks in time. Of course, you do not know this is happening. This in itself is not too bad but then the real horror story unfolds: apart from duplicating itself the virus code appears to count the number of bootups carried out on an infected disk. After a certain number the disk does NOT boot up. You will instead get various messages displayed and finally all the disks in place will have their contents erased! Unlike the similar warnings on p.319 of the last Newsletter this is NOT a rumour. I have seen it happen!

While ICPUG does not support software piracy I personally find this type of program despicable. Quite legitimate backup copies can be made which can then cause untold havoc. There are two hopes. First I have seen a disk where the messages that were displayed appeared to suggest that although the virus had existed it had been removed. Secondly it is possible to remove the virus on a disk which is suspected to be infected by giving a CLI 'install' command to that disk. This latter action will not work with software which has special boot loaders. You have been warned.

Stop Press:

Since I wrote the above from Jacob Ellis I have received another letter from Pat Bomyer which nails the Flight Simulator problem once and for all. I reproduce below selected pieces of his letter.

'The main reason for problems with programs (which ran on 1.1) running on the new systems is where programmers have assumed all RAM is 'chip' RAM. These programs will only work if the fast RAM (of the new systems) is removed either by physically switching it out or by software which is available.

With some other programs, I believe that Flight Simulator is one of these, a different problem can occur. An A1000 with two microfloppy disk drives and Kickstart 1.1 will load the program OK, but there is only just enough memory. With Kickstart 1.2 on the same system the memory used by Kickstart is just a bit more (as Jacob found) and there is now not enough memory to load the program. Take away the second disk drive and, lo and behold, there is now enough memory to load the program. This works on my system. If you add fast memory to the A1000 the program loads with both drives connected. Scenery disk 7 only works, so I am told, with 1.2 and so will work with an A1000, 1.2, and only df0: connected.'

I have checked out Pat's idea and it works! As soon as I disconnect my external disk drive Flight Simulator works with Kickstart 1.2. My friend's A1000 on which Flight Simulator worked originally with 1.2, and caused my confusion, at that time had a single drive only. All is now clear.

***

AMIGA OWNERS

FED-UP with a colour palette of only 2 colours in your hard-copy? If so, why not send your IFF-format art on disk to me for printout on the 4000+ colour Xerox 4020 ink-jet printer. Specify the file you want printed and send £2 per print +30p p&p to: AMIGART, 25 Deanhead Road, Eyemouth, Berwickshire, TD14 5SA.

AMIGA WATCH

by Mike Todd

Hidden messages

Now, if you were a part of a close knit team designing a computer which was expected to be a world leader, wouldn't you want to add your signature to it, just as an artist adds his to the fruits of his labours? I'm sure you would, and the Amiga design team feel much the same.

If you've already been bold enough to take off the top of your A1000 Amiga, I'm sure that you'll have seen the many signatures, pictograms and paw prints "engraved" into the underside. This may also be true of the A500 and A2000.

As if that weren't enough, there are "signatures" and messages hidden within the operating software. This habit dates back to the very early PETs when MICROSOFT hid a copyright message in the ROMs that would appear when the command WAIT 6502,50 was entered. Well, being rather more sophisticated, the Amiga's messages are more numerous and need a little more work to get at. First of all, there are a couple of straight ASCII messages embedded in KICKSTART - these need a short BASIC program to extract them.

```
DATA  3, 16543736,  16649670,  16728512
READ Number
WIDTH 40
FOR X = 1 TO Number
  IF X=3 THEN WIDTH 16
  READ Address&
  WHILE PEEK(Address&) <> 0
  PRINT CHR$(PEEK(Address&));
  Address& = Address& + 1
  WEND
PRINT:PRINT
NEXT X
```

This is for version 1.2; those with version 1.1 have only two messages and should use a DATA statement of:

```
DATA 2, 16544650,  16653596
```

Now, before someone has a go at me for not using the hex notation feature of

AmigaBASIC (where hex numbers can be written &Hffc0 for instance) I should point out that, for some peculiar reason, the hex numbers are limited to 4 hex digits, with &Hffff being the equivalent of decimal -1. Frustrating, what!?

Now, having seen these three messages let's go back to the Workbench screen and flex a few fingers. For the following exercise you'll need a large and flexible hand (and KICKSTART 1.2)!

Arrange the screen so that you can see the Workbench menu bar (with the "Workbench release 1.2" message in it) and then perform the following manual acrobatics by pressing the following four keys together: Left-SHIFT, Left-ALT, Right-SHIFT and Right-ALT.

Now, with your other hand (or nose!) press the function keys in turn and read the menu bar, and you'll see... well, I'll tell you later.

Whilst you're doing this, pause awhile on F1 and, with whatever appendage you can muster, eject a disk from the internal drive and read the message. There is a second message built into the system which pops out when you put the disk back, but it contains a four letter word and appears to have been censored in my versions of KICKSTART although I can see the encoded message in the operating system code!

Well, we haven't finished yet - load up Preferences in the normal way. Look at the two mouse images on the right and you'll see each one has appropriate mouse buttons. These are actually proper gadgets (i.e. you can click on them). If you consider these "buttons" as A B C D, from left to right, then click on the screen gadgets as follows:

```
A B C D
A B C D
A B C D
A B C D
Change Printer
Printer Select UP Arrow several times
```

Whilst you're clicking on the UP arrow (that's the one which selects which printer and scrolls you through the printer types) watch the menu bar as you try to go beyond the end of the list.

Now, with Preferences still loaded, click on the gadgets again, this time in the following order and you'll see another message:

```
C B D B
```



```
D C B B
C B D B
D C B B
Change Printer
OK
Reset Colors
```

There is also an oddity on the Preference display - place the pointer against the left hand edge, just to the left of the date and press the left mouse button. A little black line appears - all the signs that there is a gadget hidden here. No-one knows what it does!

There are rumoured to be lots of other hidden messages (mainly in Preferences) but they appear to be very tricky to get out.

The sluggardly A2000

As I write this (August) there are rumours of a problem with the A2000 which strikes me as being a little worrying. There have been reports on the various computer networks that the A2000 runs much slower than the A1000 (or A500 for that matter).

At the US West-Coast launch of the A500 and A2000, a processor intensive benchmark was run on all three machines. The A500 and A1000 came out with identical timings, but the A2000 was 20% slower - another report of similar tests shows a 12% difference, whilst a further report says 25%.

Exactly what the answer is I don't know, although people around the world have been diving into both the German design and the West Chester design A2000, pulling out bits and pieces and trying to come up with an explanation - but as yet, there are nothing but highly conflicting reports. Perhaps the most plausible is the possibility that the extra 512k added to CHIP memory (that is the memory which the custom chips share with the processor) is slightly different, and has had an extra WAIT state added. The thought is that, to all intents and purposes, there are now three types of RAM in the A2000 (in addition to CHIP and FAST memory in the style of the A500 and A1000).

I'll try to keep across this development, and see if there is a definitive answer (and maybe a solution) - however, there appear to be two different designs of A2000, and it is the West German design that has the problem.

Deluxe-Paint upgrade

I recently talked about the upgrade version of Deluxe-Paint (Deluxe- Paint II) from Electronic Arts, that US users had a cheap upgrade path to the new version and that Precision Software were reluctant to assist in taking advantage

of this offer.

Since then, Electronic Arts have come over to the UK and established a UK office in Langley, Berks. This has three major advantages: first, new EA software should appear in the UK much quicker than before; second, prices will be lower; thirdly, the D-Paint II upgrade is now available in the UK.

For just £29.95, and your D-Paint package front cover, you will receive a copy of D-Paint II and the user manual. The address of Electronic Arts (UK) is Langley Business Centre, 11-49 Station Road, Langley, Near Slough, Berkshire SL3 8YN and it may be helpful if you mention that you heard about this through this column in ICPUG's newsletter. Turn round should be fairly fast (providing that they have sufficient stock) but I have a feeling that demand is likely to be very great, so I'd be patient and allow at least 21 days. Of course, you could always give them a ring to check.

Superbase follow-up

Following my comments on SuperBase personal, I have had several comments for members - some agreeing, others disagreeing with my general points. There is general agreement, however, that the conditions of use inside the manual are appalling. Two individuals have even stated that the very act of publishing such exclusions may be illegal. I agree that these conditions are harsh, especially as one doesn't come across them until after buying the package; however, I can't comment on their legality other than to say, in answer to those that have made the point, that Precision Software would have taken substantial legal advice and not have published anything that could lay them open to either civil or criminal procedings.

As for my other comments, six months of using SuperBase personal has given me further insight into the package and, whilst I still get frustrated at the lack of thought put into certain areas (especially compared with the considerable thought put into other areas) I am begining to enjoy using it, but only because I have discovered some tricks which have saved considerable time in entering masses of data.

For instance, to avoid the long delays while Superbase writes a new record to the disk, I have taken to copying the database to RAM: prior to loading up Superbase and then specifying RAM: as the directory. It's then possible to whizz through the database at a fair old rate of knots and storing a record takes no time at all. By keeping a spare CLI around, it is then possible to periodically do a copy from RAM: to disk to preserve the newly entered data from a system crash.

As a database grows, there may not be enough RAM to hold the complete database - for this eventuallity, I created two copies of the database one of

which never has data stored in it whilst on disk. It is this null database which gets copied to RAM: and has data entered into it in the normal way. Once complete, I export all the data to a temporary file (again in RAM: for speed), then import it into my master database on disk (at a time I can pop off for a cup of tea or round the pub). The time savings are very significant indeed.

While you've got a large database in RAM:, check out how long it takes to create an index, or search through the file - the efficiency with which I can work with Superbase under these circumstances has seriously got me thinking about a 2Meg expansion - then I can transfer complete databases to RAM: without running out of memory.

During these exercises, I was grateful for the Amiga-S method of storing a record (which I hadn't picked up from the manual when I wrote my previous Amiga Watch) but, as many of the records I was entering had very similar data in them I wanted to use the Duplicate feature to provide a copy of a record which I could then just modify and store.

Sadly, a lot of mouse-work is needed to do this and it took ages to enter my data - fortunately, with a little careful repositioning of the data fields so that the first field appeared close to the requesters, I was able to make the operation less painful than it could have been.

So, I end this little piece with a plea to Precision Software - PLEASE make ALL the Superbase functions (including the forward, reverse, stop and other buttons) available from the keyboard.

Commodore printers

I've had many letters asking about using existing Commodore serial printers wth the Amiga - for the many who have asked, the answer to your questions is "No, at the present time there is no way to use your C64 or C128 Commodore serial printer with the Amiga".

However, for those entrepreneurs amongst you, I see no reason why a parallel connector to Commodore serial connector cable shouldn't be designed and one of the device drivers rewritten to drive it a la C64 or C128. The reason I suggest the parallel port and not the serial is that the voltages on the serial port would need coverting before they were allowed anywhere near a Commodore printer.

A new BASIC

I am currently hearing rumours of a new BASIC for the Amiga from the same stable as Simons' BASIC for the C64.

It is called SAM BASIC (Simons' Amiga Multitasking) and allows several BASIC programs to run simultaneously, has 3D graphics support and runs

faster than AmigaBASIC. I hope to bring more news of this next time around.

Flicker

No, I'm not talking about Roy Rogers' horse - but that irritating flicker that one gets when using the Amiga in interlace mode. If the letters I get are anything to go by, a recap of what it's all about is in order.

First of all, this flicker is NOT a fault of the Amiga in any way. Some have claimed that it is a design deficiency - "the ATARI ST doesn't flicker in interlace mode" said one correspondant. Well, that's just not true, since the ATARI doesn't have an interlaced mode!

Let's start from scratch. A UK TV picture is made up from 625 horizontal lines, of which about 600 are actually displayed and 512 appear as useful lines on the Amiga. These lines are actually displayed in bursts of 312.5 lines - 50 times a second. Now, when the Amiga is displaying in the 256 line vertical resolution mode, which it is most of the time, each burst of 312.5 lines is identical and they are arranged to lie exactly on top of each other.

When you switch to interlaced mode, and expect to have a doubling of the vertical resolution to 625 lines, the Amiga changes the display so that alternate bursts of 312.5 lines carry different information, and these lines are arranged to to lie between the lines of the previous burst. In other words, the lines are interlaced on alternate bursts.

So, in effect, you are getting two pictures which are being merged to appear as one, with one picture displaying the odd numbered lines and the other displaying the even lines.

Doing the simple sums, if the non-interlaced (256 line resolution) had each identical 312.5 line picture being transmitted 50 times a second, then if we're transmitting two different (ie. odd and even line) pictures instead, then each will appear 25 times a second. That means that adjacent lines on the screen, which each come from a different picture, are each being displayed 25 times a second. This is EXACTLY what your normal TV does, and the BBC has never had anyone complain of flicker. The eye is normally capable of smoothing out the two images since the image of one will persist in the eye long enough for the next one to come along and takes its place without you seeing a gap, and so no flicker. In some individuals this persistence of vision doesn't work too well, and they can see the normal TV flickering quite badly.

So that's why there's flicker - but it doesn't explain why it is so much more noticeable on the Amiga than on your TV. The answer is simply that the BBC rarely broadcasts images that show up this effect since it is at its most objectionable when large sections of adjacent lines in the image are of markedly differing brightness, and this usually only occurs with electronically

generated images. Just look at the electronically generated titles of the 6 O'clock News on the BBC and you'll see considerable flickering, even though sophisticated graphics techniques have been used to reduce the effect.

If that's how flickering is caused, how can we reduce it? Well, the commonest suggestion is to buy a display in which the image decays very slowly - a long persitence VDU - and so one image will not have faded before the next comes along. It's an expensive option, and will cause blurring of any moving images.

You can take greater care in your graphics design. By ensuring that horizontal lines don't exist starkley on their own, but instead have pixels either side of them only slightly different in brightness you can reduce the effect.

You can keep the contrast of the whole image low, either by reducing the range of intensities of the colours you're using, or turning down the brightness/contrast on the display. Even adjusting the room lighting can sometimes have an effect>

You can reduce the contrast externally, by using a neutral filter between your eyes and the screen. Smoked perspex is very effective, although not terribly cheap; neutral grey lighting filters are also effective, and cheaper; sunglasses also work; or you can half close your eyes!

Of course, you could buy one of the commerically available flicker reducers - these are normally nothing more than tinted perspex sold at a high profit. Some are polarising filters and also help reduce reflections, but the polarisation on its own doesn't have much effect on the flicker.

I must stress that the perception of flicker is a highly individual thing, and that it's elimination is easy for some, impossible for others. In any case, it is rarely possible to eliminate totally.

You might try some experiments - if you have Deluxe Paint, go into interlaced mode and create a grid of horizontal lines alternating red and green. With a large enough area covered in these lines, you will see a flickering patch of yellow. Move your fingers in front of the screen and you'll see the red and green quite distinctly.

Using the colour palette, try changing the red to black and the flicker will become even more intense. Then change it to green and notice the marked decrease in flicker. Also try different combinations of colours and see which ones flicker the worst - the effects are sometimes surprising.

Finally, returning to the ATARI ST - yes it does achieve a high vertical resolution, but not by using interlacing. Instead, it displays all 625 lines in one burst, 50 times a second. The flicker is non- existent, but not without a price. It requires a special display which is capable of displaying 625 lines, 50 times a

second - this requires a wider bandwidth for the signal, and a more expensive display, and it is only available in black and white. However, the results look very good and I would love to see Commodore produce an Amiga with non-interlaced 640x512 display as a programmable option. It's not difficult!

Those messages

Finally, the messages that you'll see revealed are as follows:

```
F1    System Software: Carl, Neil & Kodiak
F2    Graphics Software: Dale, Bart, Jimm & =RJ=
F3    QA: Jon, Bruce, Stan, Kim & Barry
F4    LG Support: Caryn, Dave, Victor, Terry, Cheryl & Nancy
F5    CBM Software: Andy, Barry, Dave & Eric
F6    Pics: Sheryl & Jack
F7    Docs: Rick, Mitch, Peggy & Bob
F8    Chips: Jay, Akio, Glenn, Edwin, Mark & Dave
F9    HS: Dave, Bill, ChrisR & Josh
F10   Moral Support: Joe Pillow & The Dancing Fools
```

Many of these names are already quite well known in the Amiga world, some less so - I've tried to put together as much of the complete names of the cast list as I can (in the same order as Christian names above): Carl Sassenrath, Neil Katin, Bob "Kodiak" Burns, Dale Luck, Bart Whitbrook (?), Jim Mackraz, RJ Mical, Caryn Mical, Dave Fenske, Terry Ishida, Cheryl Gibbons, Andy Finkel, Barry Walsh, Dave Berezowski, Jack Haeger, Rick Osborne, Peggy Steimer, Rob Peck, Jay Mier, Akio Tanaka, Edwin Chu, Dave Needle, Josh Soske.

The last two (Joe Pillow & The Dancing Fools) to come from Dale Luck and RJ Mical (the Wizards of the graphics software) who would dance to loud music in the middle of the night while involved in heavy programming sessions - Joe Pillow is reported to be an imaginary friend of the two of them!

If you're interested, these F-key messages (in KICKSTART 1.2 - version 33.180) are stored from $FEE0DA to $FEE259 (encoded by EORing with #$AA), and a table of their start addresses is at $FEE25A. The routine that does the checking is at $FEE002 although I can't imagine what you'd want to do with this information!

The other messages ("The Amiga, born a Champion" and "We made Amiga-then f**ked it up") are similarly encoded at $FEE0BE and $FEE09C but only the former will normally be seen. The latter is something of an admission!

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REVIEW - AMIGA WORDPERFECT

by Jim Kennedy

Probably the most comprehensive of all word processors available for any micro is WordPerfect. In the PC world it has become the standard against which others are measured and it does just about everything any other word processor can do and then some. In the PC version it retails for £425, and at that price it is obviously not sold as a package merely to write short notes to one's friends with. Rather, PC versions of WordPerfect are marketed for the professional and business user. But how does WordPerfect on the Amiga stack up? What does it offer that other word processing packages don't?

Amiga WordPerfect comes on four 3 1/2 inch disks along with a manual of just over 600 pages. None of the disks are copy protected; score one for the good guys. One chapter of 30 pages is devoted to the installation of the program along with various combinations of disk drives either with or without hard disk and a variety of printers attached.

Installation

One starts by copying all the disks and creating directories and a data disk. Then the remainder of the first part of the installation procedure is concerned with selecting up to six default printers out of a menu of 250. One is actually not limited to these 250 choices; custom set-ups may be designed or you can go back to Sentinel Software who distribute WordPerfect in the UK and ask them to help develop a set-up for your particular printer. Seeing the list of printers supported by WordPerfect for the first time is staggering, nothing else I have ever seen can touch it.

I originally intended to test three printers during this review, a Juki 6100 daisywheel, a Hewlett-Packard LaserJet (using both its resident fonts as well as with a U Font Cartridge) and a Commodore MPS 1000. The Commodore MPS 1000 arrived just as I was finishing this review so I didn't have time to try it with WordPerfect. But the others installed without problems. The method of doing this is not intuitively obvious and use of the reference to the manual was essential. One is not restricted to using only six printers, others may be selected but they will require 'installation' prior to their use.

This is then followed by the second part of the installation procedure which allows configuration of WordPerfect to suit your working habits such as default page format, date format, tab settings, automatic timed backup options, icon options, beeps on or off and the like. These installation options may be

changed later if desired. I suspect most users will start off using the WordPerfect default settings and reconfigure things later when they become more familiar with the system. One exception is the date format where most UK users will opt for 1 April 1988 as opposed April 1, 1988. Many other date forms such as 12/1/88 are available as the default option.

After setting the default date format whenever the DATE key (shift F5) is pressed the date, and the time (if also specified), are automatically inserted into text. This assumes, of course, that the correct date and time have been set via Preferences, the CLI or a clock calendar card at startup.

I don't have a hard disk so I couldn't test installation of WordPerfect on it. However, John Bickerstaff does and he said that close attention must be paid to the manual during this procedure to the designation of paths and naming of directories. This point cannot be overstressed whether you use floppy or hard disks. I heard one report which claimed that WordPerfect crashed when using the thesaurus or dictionary. I believe that this is not due to crashing of WordPerfect but to improper designation of paths and directories during installation. I repeat, you must read the manual to install WordPerfect properly.

This is as good a point as any to mention that WordPerfect will run on the Amiga 500, 1000 and 2000. Two different keyboard templates and one set of numeric keypad 'keycals' are provided to accommodate the various Amiga keyboard layouts. One template is for 500 and 1000 and the other for the 2000. The Keycals are for the 1000. There is a nice note in the manual that if the template does not fit your keyboard return it with the name of the keyboard you are using with your name and address and a replacement which does fit will be sent you. Can't do better than that.

The first thing one sees after booting-up WordPerfect is an almost totally blank screen. Besides the cursor only the Title bar at the top, Scroll Bar with Sizing Gadget on the right and a small Page, Line and Position indicator at the bottom left are visible. The Title Bar contains information about which window you are in and the name of the document. The Page and Line indicators are self explanatory. However, the Position indicator not only shows the column but indicates whether you are in bold, italic or underline mode by itself being displayed in these modes. This useful item saves starting to type something and finding that you forgot to switch underline off.

Many users will begin with the short Getting Started chapter, a sort of 'breaking the ice' section designed for newcomers to computers and word processing. The main Tutorial chapter then begins on page 29 and continues through to page 293. That is a lot of learning. But there is a lot of teaching to

be done. Bear in mind that the list of WordPerfect features runs on almost forever, I counted 177 on a Quick Reference or Help card which came with the package. For obvious reasons only a few will be mentioned here in this review.

WordPerfect is WYSIWYG. One problem with many WYSIWYG packages is that when editing time comes around it is difficult to tell how you did something such as place a piece of text at the centre of the screen; was it by spaces, by centring or by tabs? WordPerfect has imbedded codes which are revealed in a separate window below the main body of text by either ALT F3 or, like most of the commands, by using the mouse and a pull-down a menu. This allows one to edit the codes if desired. In the codes window below the main body of text the cursor is in the same place as it is in the text. Since the codes are in 'readable' formats like [Center Pg] and [Rt Just Off] they are easy to edit and then return to the main body of text by pressing the space bar.

One thing which is highly personal to all users of word processors is whether or not the default mode is Insert or Typeover. In WordPerfect either may be selected in the installation program and changing from one to the other is a single keystroke away. When Typeover is toggled on by the INS key on the 500 and 2000 or 0 key on the numeric keypad of the 1000 the word Typeover appears beside the Position indicator.

In using WordPerfect one is struck by just how many different features this program supports. Almost any layout style of any publication or organization may be accommodated with this package. In fact, so many features are available that I suspect many users will go overboard and select too many, just as first-time users of desktop publishing packages do. I shall mention a few.

Features such as single or double underlining as well as continuous or non-continuous underlining are catered for by WordPerfect on most printers. (I hadn't realized that the LaserJet could do double underlining until the WordPerfect Printer Test Document activated it.) Redlining and Strikouts are also supported. Redlining is a term to describe text marked for attention. It could be used in a document sent into the boss for approval of proposed changes. WordPerfect marks or Redlines such text by placing a vertical mark in the left margin of the text on ordinary printers although it will actually print it in red on colour printers. Strikeout is where text proposed for deletion has a line drawn through it indicating it is to be deleted after approval.

Both automatic Footnotes and Endnotes are supported. One has a choice of using numbers, letters or characters for either feature. The ability to change between these three options is necessary when using both Footnotes and Endnotes in the same document. It was here that I found the only real bug in

WordPerfect. When anything other than the number format for Footnotes was selected the printer stayed in half line mode and squashed up the remaining text on that page. This happened with both the daisywheel and laser printers. I rang Sentinel Software and they asked for a copy of the printer output so they could fax it to the States for fixing. The technical help fellow at Sentinel who I talked to on the phone was very helpful. WordPerfect has a reputation of providing very good support to its customers. You should expect quick response to queries and bug fixes with this package.

Up to five columns across the page are supported by WordPerfect in either Newspaper or Parallel style. Hanging paragraphs where all but the first line are indented are available and not only is the paragraph indented on the left but also on the right side of the page. This makes for a much improved and more professional layout when compared to most other word processors.

The features go on and on. Maths are built in and one formula per column is a nice extra feature, not quite a spreadsheet but close. Macros are available and may be chained together a la Superscript. Conditional macros and the ability to have one macro call another make for very powerful applications such as indexing a long document. Printing of single pages or blocks of text only is provided for. Widow and orphan protection may be selected and may be changed as many times as you wish in the middle of a document.

Outlining and automatic paragraph numbering are available and many alternative numbering styles are possible suc as I. B. 1. or 1.2.1. WordPerfect can automatically generate a table of contents, lists of illustrations or tables and create an index to a document. These features are all covered in the Tutorial chapter and if you need them you have to work through the relevant tutorial section. In fact I would recommend you work through the entire Tutorial chapter even if you don't think you'll need all the features. Uses for many of them will become apparent after you have been using the program for a while.

Unlike some other word processors such as Wordstar where certain options must be selected at start-up, WordPerfect allows you to select or change them in midstream. For instance you may set the date to European format 8 November 1987 and in the middle of a letter to your Canadian cousin wish to display today's date in North American format. Just press the Date key (shift F5) and the requester asks whether you wish to insert the date into text or change the format. You click on 'change the format' and then insert the date in the new style for the rest of the letter. Nice touch having options like those.

Let's now turn our attention to WordPerfect's Dictionary and Thesaurus

options. Suppose you type in 'hostle' when you meant 'hostile'. Click on the Spelling Checker or, as mentioned before, virtually all commands also use keys if you prefer not to take your hands off the keyboard. (I find that while entering text I keep my hands on the keyboard but use the mouse a lot while editing.) WordPerfect will ask whether you wish to spell check the word, the page, the document or various other options. In this case select the option to check the word. Within a couple of seconds it informs you that the work cannot be found and it begins listing proposed words such as hostel, hostile, hostler, and hustle. You click on the word 'hostile' and it replaces the incorrect one. If later you then decide it isn't quite the right word for that particular context then click on Thesaurus and synonyms and antonyms are displayed in a window below the text. You click on both 'malevolent' and on Replace Word and the substitution is made in the text. One may go back to 'malevolent' and do the same thing again however this time deciding that you like the person after all. Clicking on the antonym 'benevolent' which is displayed and on Replace Word and presto, the word is changed again.

Both the dictionary and the thesaurus are fast - you'll like them. The spelling checker also highlights double occurences of words. I always have this problem and this feature is very helpful for me. Most people will find WordPerfect has many similar bits which they will find quite useful.

Only two niggles, though. First, and the more important of the two, is that the dictionary has American spellings. As readers will know I'm a bit 'fussy' about these matters. WordPerfect has stated that they are working on an anglicized version but no release date was mentioned. I understand that the anglicized MS-DOS version of WordPerfect has been completed and that is an encouraging sign. Mitigating the effect of no Anglicized dictionary is the fact that words may be added to the dictionary so 'colour', 'honour' and the like will not be thrown up as errors.

Changing a dictionary when it is linked to a thesaurus is no trivial task. The word color is linked to twenty seven other words alone; the nouns it is linked to are: hue, pigment, shade, tint, cast, tinge, tone, bloom, blush, rosiness, implication, intent, mood and spirit; the verbs are: dye, paint, stain, tint, affect, bias, prejudice, slant, blush, burn, flame, flush and redden. It may take a little while time to get this conversion sorted out.

The other niggle is that the thesaurus has some minor omissions. It is not always possible to substitute a synonym and then find the original word on the second word's list of synonyms. This is a very minor matter and in fairness WordPerfect had to draw the cutoff line for numbers of synonyms somewhere. If I was using WordPerfect on a laptop (I know, there isn't an Amiga laptop but

there are MS-DOS ones) and had to make a choice of between being forced to carry a separate hardcopy Roget's Thesaurus or using the WordPerfect version I'd use the WordPerfect version out of convenience.

Printers were mentioned earlier and there is not a lot more to be said about them except that WordPerfect will drive a Hewlett-Packard LaserJet using font cartridges in microspaced proportional spacing mode. This will allow one to produce output like you see on this Newsletter page. (An unrelated item to WordPerfect is the fact that while Vizawrite Classic on the 128 supports this option Desktop VizaWrite for the Amiga doesn't do it yet.) So if you need high quality text output from the Amiga (i.e. 300 dots per inch) then WordPerfect is the only thing of which I am currently aware that meets those requirements.

I should also mention that WordPerfect will not handle graphics. It is possible, of course, to produce simple bar graphs using keyboard characters but the importing of graphic files such as can be done by Desktop VizaWrite is not possible. I have probably left out certain features of WordPerfect which many readers will have an interest in. I make no apologies for doing so. There are so many features in WordPerfect that if I were to test them all this review wouldn't have been completed until next summer. I had to call a halt to things somewhere along the line.

In my opinion WordPerfect is simply the best word processor available for the Amiga. Reflect for a minute on the differences between a skilled craftsman and a weekend DIYer. The craftsman can undertake almost any task in his trade and he has the necessary tools to tackle all the unusual jobs. The DIYer may do some very good work but his scope is much more limited and he wouldn't even attempt certain jobs as he lacks both the skills and the tools to properly do them. This analogy holds true when comparing WordPerfect with most other word processors whether they be for the PC, the Amiga or any other micro.

With the mouse and the rest of the features available on the Amiga WordPerfect is also a lot nicer to use than it was on MS-DOS machines. This is simply because it had so many features that one had to keep referring to help cards or overlays for anything but the most commonly used items. Now a click on the mouse and everything is there on screen. I plan on using WordPerfect as my standard Amiga word processing package.

During this review only two hiccups were found which were so trivial that most writers would never mention them. One involved automatic backups. After the predetermined time interval for automatic backup and when the specified data disk was not present in any drive a requester comes up asking for the data disk to be inserted so the backup may proceed. If I clicked on the

Cancel option indicating the backup should not take place the requester appeared a second time and I had to click on that one also. I don't know whether or not that was intentional so as to make it more difficult to bypass this safety feature but it caused no real problems.

The other 'hiccup' occured when, on a requester with a long list of options, I could only use the mouse, not the relevant key, to select a certain option. This was in the Print Requester where the Go Printer command could be accessed only with the mouse and not the letter G. This was the only case where I was forced to use the mouse alone, and although use of the keyboard was more natural under the circumstances, I didn't bothered me. This problem should be fixed in the near future but if not I wouldn't loose any sleep over it.

Finally we come to that part of the review where we talk about prices. How much is WordPerfect on the Amiga? When it was first launched here in the UK the price was £299, later reduced to £249. Most considered that was still too high for the market. Of course, businesses will pay much higher prices than personal users, but with the Amiga 500 at under £500 a package of around £300 is just not on. After discussions Sentinel Software agreed to reduce the RRP to £199. Please note that ICPUG members are also offered a discount through our Discounts Officer. An additional rebate of £50 is available for trade-ins of Scribble. At these prices WordPerfect represents very good value.

It should be noted that in North America CBM have offered two special bundles of software packages for the Amiga to user groups only. The more expensive package for $199 includes both Superbase Personal and WordPerfect. This is very good value indeed and ICPUG is trying to see if such a scheme can be implemented here in the UK. Furthermore, WordPerfect is discounted in all versions. I saw an advert in October's Computes!'s Gazette for WordPerfect on the PC for $207. In other words, the price first quoted for WordPerfect may not be quite as steep as it appears.

If you are serious about word processing then I would recommend a phone call to John Bickerstaff (see inside front cover); you'll be pleasantly surprised. Don't get me wrong, WordPerfect is still expensive by Amiga software standards, but you'll be getting the most powerful word processor available yet for the Amiga. For those interested in a truly professional and versatile word processor and who don't need to include graphics in their text, WordPerfect is the program to choose. Back in my university days when I had to write two theses I would have given my right arm for a word processor [And your left arm for a computer, right Jim? - Ed.]. I think I'd have also given my right leg for WordPerfect had it been available.

THE AMIGA - A HISTORY

by Mike Todd

I know that we've published a couple of pieces in the past which talked about how and when the Amiga came to be designed. These stories were based on a great deal of third or fourth-hand information, and some heresay published in a variety of other journals.

Earlier this year, R.J. Mical (who was part of the Amiga software design team, wrote much of the graphics software and was one of a small handful of people who shaped the Amiga's user interface) gave a talk to a computer group in Cambridge, Massachusetts.

An account of the talk has appeared on a couple of computer networks in the USA, and I'm grateful to Gary Oberbrunner for putting them there! The following is distilled from his notes and other articles I've come across which were written by insiders and so should be accurate. This, then, should be as near as we'll ever get to the definitive story of the rise and fall of the Amiga.

Once upon a time ...

...there were three doctors living in Florida with a spare $7 million that they didn't know what to do with. They thought of setting up a department store, but soon changed their minds and decided to start a computer company - they called it Amiga inc.

First on the shopping list was some staff - so they searched around and found Jay Miner, a chip designer from Atari, and Dave Morse, sales Vice-President of Tonka Toys (the company that makes heavy duty toy trucks that will survive such traumas as having a real truck driven over them). The doctors' intention - to design the most advanced games machine ever.

To sell such a machine required that they already had a presence in the market place, and this they started by selling peripherals and software that they bought in. One of these products was a joystick - but one which you stood on! It was called the Joyboard and could be used with several of their software products, including a ski game and some track and field type games.

One of the games that the boffins at Amiga inc. dreamed up was one in which you sat on the Joyboard and tried to stay as still as possible. It was a useful form of relaxation and they resorted to it as the only means of keeping sane when their machines crashed. The game was called Zen Meditation and, sitting cross-legged on the Joyboard to relieve the frustration following a crash, the Guru Meditation was born. Despite strenuous efforts on the part of Amiga

management, the Guru is still with us today as many Amiga owners will attest.

In July 1983, the target price for the Amiga was $400, but this soon rose to $600 and kept on rising, mainly as a direct result of the slump in the computer games market.

This slump meant a drastic rethink in terms of the machine's capabilities, and soon the Amiga was destined to become something more than a games machine. But the original design had no keyboard or disk capabilities since it was principally a joystick and cartridge driven machine. Fortunately, but unknown to Amiga management, the designers had designed all the necessary interfacing for keyboard, disk drives ports and so on and at the Consumer Electronics Show in the USA, early in 1984, a secret launch of the machine was planned.

Software development up until this time had been done on simulators, while the first Amiga prototype was being built. This prototype had Jay Miner's three custom-designed "chips" in the form of three large breadboards of components stacked high, and wired together like a bird's nest. Static electricity would have been a killer, so the entire demonstration area at CES was covered with antistatic flloring, wall coverings and warning signs.

Although the software was ready over a week before the show, it would only run on the simulators - the real thing didn't behave the same and the software didn't work.

Dale Luck and RJ Mical (known collectively as the Dancing Fools for their habit of dancing around the office to loud music while waiting for their software re-writes to compile) together with the rest of the software team, worked over Christmas and right up to the start of the show to modify the software. At the last moment the first working prototype Amiga was on display, in secret.

Desipte the secrecy, everyone was talking about the Amiga and the marketing men soon realised the potential of the machine and celebrated by taking all the technical staff out for a meal.

They returned to the show and continued to work on fixing bugs, writing more demos and generally sprucing the machine up. It was late that night, drunk and full of Italian food, that Dale Luck and RJ put the finishing touches to the demo that was to become the symbol of the Amiga - Boing! - the infamous bouncing ball.

Once the show had finished, Amiga inc. was on the verge of bankruptcy having spent considerably more than the original $7 million, and much more would be needed to produce a marketable machine.

The original doctors pulled out of the project, leaving Amiga inc. desperate

for funds - despite an overdraft of $11 million, they still managed to find funds to keep going, and by the time that the Summer CES came along, they had a computer with real chips, not just breadboards. Those who saw the Amiga at that stage couldn't understand how such power could be contained in such a small space and kept looking for the hidden "real" computer that must be generating the displays.

With significant interest being shown by the media, and an increase in outside interest, money began to come in again and the staffing was increased to optimize and cost-reduce the design and to finish the operating system. But they were still sailing close to the financial wind - so much that Dave Morse took out a mortgage on his house to help pay the staff.

But it wasn't enough and someone was needed to buy them out in a hurry. They touted round many of the giants, including Sony, Apple, Hewlett-Packard and even a large chain-store company and in the end, Atari showed an interest. This was shortly after Jack Tramiel (the true founder of Commodore) had secretly bought out Atari and left Commodore. Tramiel was looking for a way to get back at Commodore and he saw the Amiga as a way of extracting revenge. He gave them $500,000 as a payment for a month's work, and then set about negotiating terms.

Jack "business is war" Tramiel knew that Amiga inc. was desparate, and so was prepared to grab a bargain and offered 98 cents a share. Amiga inc. were looking for $2 a share, and every time they tried to meet them half way, Atari dropped their offer.

Things were desparate - then, three days before the end of the month, Commodore called and offered $4/share. Dave Morse was prepared to haggle, and with a day to spare, Commodore bought Amiga inc. for $4.25 a share.

Of course, Atari and Uncle Jack were none too pleased. They jumped up and down and started all sorts of legal actions based on the fact that they had already invested $500,000 and that this had bought them the rights to the chips - after all, it was an ex-Atari man who designed them.

Commodore wasted no time at all in ploughing a further $27 million into the company for development and the excitement was back.

With Commodore at the helm, there were inevitably changes to the original Amiga. Fortunately, Commodore, in their cost cutting exercises, kept much of the machine's functionality but based on the concept of a business machine.

What the Amiga now needed was another 18 months to perfect, but Commodore (who themselves were suffering financial problems by this time) had to get the machine onto the market as soon as possible.

Of the machine's development, only the AmigaDOS was running into serious

difficulties. It was being written with some co-developers who dropped out due to contract and money problems when Commodore took over Amiga. MetaComCo just happened to knock on the door at about this time and offer their TRIPOS operating system.

TRIPOS had first appeared in 1978 following a Cambridge University research project to design a portable operating system for minicomputers. Written principally in BCPL (Basic Combined Programming Language - written by Dr. Richards, the leader of the Cambridge project) it originally ran on a PDP-11.

The POS comes from Portable Operating System and the word TRIPOS is a Cambridge honours examination, originating from the fact that a B.A. sat on a three legged stool and disputed in the Philosophy School at Cambridge on Ash Wednesday, his speech being called the Tripos speech - so much for education!

After a time on a couple of other computers, the 68000 version was started in 1981 and when MetaComCo knocked at their door in 1985, Commodore were only too pleased to acquire the rights to use it to get their Amiga on the market.

Since then, Metacomco have continued developing TRIPOS and they now have a version (in "kit" form) to allow it to be ported to any 68000 computer. This package includes all the necessary software (except for device drivers) to create a fully operational TRIPOS multi-tasking system on any 68000 machine.

The result has been that several new computers (including those based on new 68000 chips, such as the 68020 and the even-more-advanced 68070) are likely to be equipped with the same operating system as the Amiga.

And that's how the Amiga came into being, with developers seeing the first pre-production machines in the summer of 1985 with version 1.0 of the operating system.

These pre-production machines were costly to produce since they had been modified to have the operating system, not in ROM as was intended, but loaded into 256k of protected memory. Commodore always intended to produce the operating system in ROM, it was simply that they were already working on a cost-reduced version of the Amiga and market pressure (and the market threats from Atari) meant that they had to have their machine out as soon as possible, despite an operating system that was not fully debugged. Hence the Amiga 1000, with its soft-loaded KICKSTART operating system.

In their enthusiasm to have the Amiga perceived as a business machine, Commodore took on a project from the Business Computer Group in Braunschwieg, Germany, to turn the Amiga into an IBM compatible machine.

The SIDECAR was introduced in 1986, but had limited success.

Meanwhile, the cost reduction of the A1000 had continued apace, and in early 1987 Commodore announced the Amiga 500. At the same time, two design teams, one with the Amiga group in Los Gatos and the other with the Business Computer Group in Braunschweig, were working on an extended Amiga to include several expansion slots, more on-board memory and a more "business application" feel to it.

The Los Gatos team wanted a dream machine with vastly expanded capabilities in just about every area but this design was vetoed in favour of the faster turnround and greater cost-reduction of the Braunschweig design and that's how we got the Amiga 2000.

RJ Mical himself is rather philosophical about the A2000 and believes strongly that the A1000 is the better machine. As he points out, at least the A1000 has a "garage" for the keyboard, KICKSTART is on disk (which really CAN be an advantage), it's quieter, uses less power, has composite video out (it's an extra-cost option on the A2000 and A500) and better RGB quality (and as recent reports seem to indicate, it's faster).

RJ (or, as you'll see in many documents, =RJ=) talks fondly of the Amiga, saying that he and the rest of the team worked with great passion; they had something to prove and a real love for it, creating as they went a sense of family. His most cherished memory is how much they all cared about what they were doing.

With the Braunschweig A2000 design chosen, Commodore themselves went into cost-cutting mode and fired more than half of the Los Gatos staff, many of them legendary names, including Bob Pariseau, the eccentric long haired engineer who made the first Amiga presentation to a stunned VIP gathering.

Even RJ himself has moved on to Epyx, as part of a major design team that is well capable of producing something that will knock the socks off the Amiga.

Indeed, Commodore executives themselves are not immune to such exercises, and earlier this year some of the very big names at the top of the company walked out (or were they pushed?).

So where does the Amiga go now? Perhaps an Amiga 3000? There was talk of an even fancier chip set, to include 1024x1024, 128-colour graphics (although still with 4-bit DACs) and even a blitter per plane! But Commodore sacked the Los Gatos design team - maybe Commodore at West Chester (the Commodore HQ) may take it on.

There are rumours of a version 1.3 of the operating system, but it's unlikely to include any surprises nor many fixes. Instead it will mainly allow booting

from a hard disk drive and may even be called 1.2A.

Yet with the new-blood management, we ought to be seeing new directions for the Amiga. At a recent conference, Al Duncan, the new Commodore General Manager, talked in a much more up-beat and realistic manner than we have come to expect from Commodore and they are slowly begining to realise where the full potential of the machine lies. The old management wanted to push the old Amiga as a desktop publishing machine but few people have laser printers to take advantage of the software - but there was a real enthusiasm for the desktop video market.

At the same conference, there was firm talk of the US version of the A2000 and of the new video chip and version 1.3 ... was that a pig I saw float by the window?

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REVIEW - BUTCHER UPGRADES TO V2.0

by David Annal

Eagle Tree Software have brought out an upgraded version of their picture editing program 'Butcher' for the Amiga. The original was enthusiastically reviewed in the May/June issue of the Newsletter by John Grove, so I will not dwell on what it does but more on the additions that have been made. Suffice to say that anyone who is remotely interested in pictures on the Amiga, be it lo-res, any other res, or even HAM res, should read the original article if they have not already done so.

What will the new version do that the old would not? First of all, it will colour cycle! Those of you who have sent for my colour cycling demo disk will know that I find this a welcome new facility! It will also load in, and allow editing of, frames that are bigger than the visible screen size. This is essential if using Deluxe Paint II to create similarly enlarged pictures. It will allow a smaller area than the screen to be clipped and then only that part will be altered or printed, etc.

Another nice touch is the inclusion of a library of mosaic shapes that can be called up when making a mosaic picture. If you don't like any of those supplied, you can create your own with the mosaic editor! This allows tapestry and knitting effects or you can mosaic your picture into more unlikely shapes such as wheatsheaves!

Several new tools have been added that allow modification of picture colours in an easier way than before. Tone separations are simple, and pseudo colours, false colours, colour separation, banding, and ageing, are all easily available as menu options. As well as density slicing, one can now use colour segmenting, allowing for precise defining of the ranges of hue, saturation and value to be used in the picture. Colours which do not fall within the ranges specified, are turned to black. The effects possible with all these facilities have really to be seen rather than described but they are fabulous!

The way Butcher performs screening, or the creation of half-tone pictures, has been extended and the user now has the ability to greatly modify the process. Several other changes have been made and the histogram data can now be printed out. Ever lost your menus because the writing is the same colour as the background? No longer... 'sanitize' will fix it instantly! Finally, you can now UNDO an UNDO!

Anyone creating, and/or editing, pictures on the Amiga should buy this program. It is startling what it can do! Even if you bought Butcher 1, and use it, I think it would be well worth forking out for the upgraded version!
Obtainable from the Amiga Centre - Scotland, 4 Hart Street Lane, Edinburgh, EH1 3RN. Tel 031-557 4242. (To whom thanks for the review copy.) [See Editors' Notebook for more information on Amiga software from the Amiga Centre-Scotland - Ed.)

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BILL'S BULLETINS

DESKTOP VIZAWRITE REVIEW

Desktop VizaWrite for the Amiga is scheduled to be reviewed in the next Newsletter. There just wasn't time for Jim Kennedy to complete his review for this issue. From his preliminary look at the package however, it looks quite good. It supports graphics from sources like Deluxe Paint so if graphics are a requirement one should certainly consider this package.

There were a few bugs reported in early versions of Desktop VizaWrite, as in virtually all programs, but version 1.03 seems to have eliminated most of them. Hope to have the complete review in the next Newsletter.

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AMIGA 500 - THE AMERICAN PLAN

by Betty Clay
Arlington, Texas

The most exciting news to Commodore club members in the States recently has been the great software offer to purchasers of the Amiga500. News of this offer began to spread late in July. The 750 registered Commodore computer clubs around the States were notified that Commodore had a great offer for their members, but only if they would send them a mailing list of the membership. My own club sent a set of mailing labels, and during the latter part of August, I received a beautiful color brochure giving details of the offer, and containing a card to be presented to the Amiga dealer if I wished to take advantage of it. The offer is this:

Each Commmodore computer club member who purchases an Amiga 500 before October 3l, 1987, can purchase the computer at the best price he can negotiate with the dealer (usually about $699 U.S., without monitor), and then can purchase either of two very special packages of software at very low cost.

PACKAGE A - $99

Total suggested retail price of these packages is over $600 U.S.

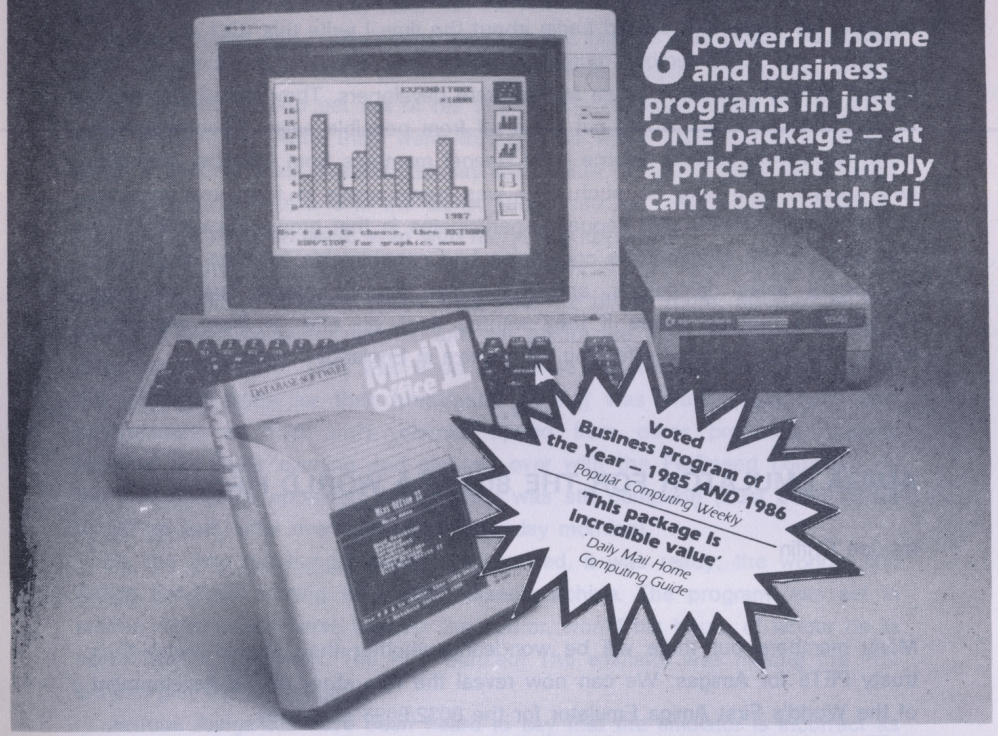
DELUXE PAINT II - $129.95
PAGESETTER - $149.95
AEGIS ANIMATOR - $139.95
TEXTCRAFT PLUS - $109.95
MARBLE MADNESS - $49.95
500XJ Joystick - $19.95

PACKAGE B - $199

Total suggested retail price of this package is over $1200.

WORD PERFECT word processor - $395.95
PAGESETTER DELUXE - contains laserscript, Fontsetl, and Hyphenation Module, plus an offer to upgrade soon to PROFESSIONAL PAGE (which will do real typesetting) - $259.95
SUPERBASE PERSONAL - database - $149.95
MAXIPLAN 500 multitasking spreadsheet - $149.95
DIGA! communications software - $79.95
DELUXE VIDEO presentation video and graphics package - $139.95
CLIMate - icon shell for AmigaDOS - $39.95

Mini Office II


Mini Office II
Voted Business Program of the Year – 1985 AND 1986
Popular Computing Weekly
'This package is Incredible value'
Daily Mail Home Computing Guide

6 powerful home and business programs in just ONE package – at a price that simply can't be matched!

WORD PROCESSOR
Compose a letter, set the print-out options using embedded commands or menus, use the mail merge facility to produce personalised circulars – and more!

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DATABASE SOFTWARE
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£3 Off for ICPUG members See "Discount Corner" for further details

ORDER HOTLINE TEL: 061-480 0171

SEND TO: Database Software, Europa House, 68 Chester Road, Hazel Grove, Stockport SK7 5NY.

ICP

These packages are stacked in the dealers' showrooms, and we are hearing that the 500s and the software packages are selling extremely well. There has still been no publicity campaign of any kind for the Amiga in the United States other than this offer to the user groups, but we are told that a television campaign is ready and should begin about the time I write this (Oct 4).

There was considerable grumbling about this offer by members of the Usenet network, most of whom are software developers. They feared that sales of all these packages would cut them off from possible sales. Then grumbles were heard from another source - the Usenet members from Canada, Australia, and Europe, who said no such offer was being made in their user groups! One of Commodore's staff frequently participates in that group. He commented that each of the Commodore companies had considerable freedom to choose its special sales campaigns, and that these people should lean on their Commodore representatives if they wanted such an offer in their respective areas. I do wonder what offer you will receive in England!

***

AMIGA EMULATOR FOR THE 8032 - A WORLD FIRST

by Joe Griffin

Many members out there will be wondering whether they should swap their trusty PETs for Amigas. We can now reveal the true story of the development of the World's First Amiga Emulator for the 8032/8096 machines.

The saga began on a wet Saturday in October at a seedy Hotel in Charmouth (sorry Pete, all the best detective stories feature seedy hotels and 'a charming old hotel, formerly a manor house' doesn't have the same ring). "Fingers" Arnot was tearing 68000 chips out of Amigas. He was replacing them with 68010s which he claimed would increase the speed by 0.001% with a following wind (I knew we shouldn't have had baked beans for breakfast.) John (mine's a 2000) Bickerstaff brought his machine back from its transplant and proudly set it going. A kindly soul, he condescended to let the keyboard be touched by the owner of the only PET (other than Pete's dogs) in the room.

It crashed!

When the Amiga crashes, it doesn't just go and sulk, like a normal computer. It tells you in banner headlines that you've been stupid. This 'feature' is known as a Guru Meditation Failure. Anyway, here I am sitting at this stupid machine

while all the tell-tales in the room are saying "John, he's just broken your Amiga". Have you noticed how fast owners of the latest technology can move when they think their toy has been damaged - that was John. When he saw it was "only a Guru" he calmly reset the machine and walked away.

It did it again! And I didn't even touch it! But they all said I did - you know what friends are like. Back came John and reset it again and guess what... before he had time to get out of his seat it Guru'ed again. Back the machine went to "Fingers" who then went through the entire rigmarole of changing chips a second time. Needless to say it is about 20 times harder to change chips in a 2000 than it is in the earlier 1000. With the original 68000 in place, the machine behaved itself, even with me at the keyboard.

This got me thinking and in the early hours of Sunday morning while others were still abed, a stealthy figure crept into the dining room, covered by the sound of the Chairman's snores, and sat before the most advanced machine there (an 8096 PET). Time was short and there was much to be done before the sleepers arose for their breakfasts. Coding was crude (have you tried programming at 5:30 am?), chunks ripped from other programs, welded together by sheer cunning and glossed over with the PetSpeed compiler. As the first Amiga-ite appeared the program was still compiling (trust John Grove to get up early after oversleeping on Saturday morning).

By the time the hungry hordes had arrived, it was ready; the world's first Amiga Emulator running on a 6502-based machine. The program was set in motion. This was a tense time for the author, would his hours of labour be in vain? Then it happened. The PET Guru'ed! The emulator was making the PET behave just like an Amiga!

Jealous Amiga-ites have been heard to say that the emulator is incorrect as the Guru message comes up in green, not red. This is just one facet of the advanced technology of the emulator. Red indicates a problem. On the PET a Guru is a minor inconvenience, not a disaster, hence the more soothing choice of colour.

Finally ("Thank heaven", they all say) the emulator has the ability to be added to any program with a minimum of difficulty. With very little effort it could be converted for any other 80 column 65xx based machine in Commodore's range. If any member would like a copy of the emulator, it is available from me on disk (please state format) or tape. If there is sufficient demand it may even be expanded to include that other Amiga feature 'a Virus' (provided someone with an Amiga shows me what a virus looks like). If you can't have an Amiga for Christmas, go one better, have an Amiga Emulator.

***

compunet

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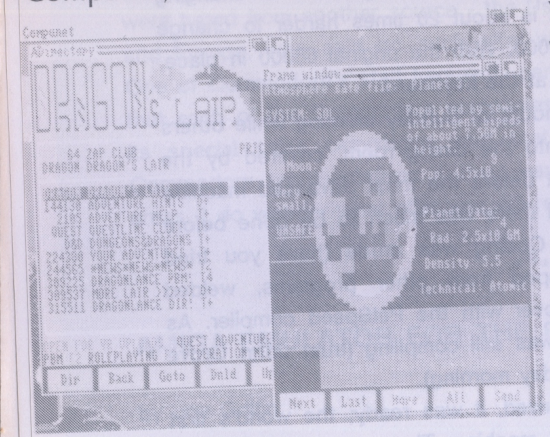

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TEXAS TALES

by Betty Clay
Arlington, Texas

In the July issue of this magazine, I was very much interested to read about your telecommunications networks. Perhaps your systems are very much like the ones I know, but just in case, here are some of the things available in my part of Texas - the two counties that contain Fort Worth and Dallas.

QuantumLink

We have QuantumLink, of course. That is the Commodore 64 network, and is available throughout the United States and Canada. Currently, the cost is $9.95 per month plus $3.60 per hour for all "+ time" services (just about everything except reading instructions.) Quantum sponsors many conferences with such people as Jim Butterfield, representatives from Timeworks, Jim Oldfield, etc. There is an educational division where tutoring is offered at many levels and in many subject areas. Future plans include college courses offered for credit! Several areas of the board are available for chatting with other participants who share similar interests, and there are numerous game sessions. E-mail is offered, and it is possible for two or three people to stake out a location for private conferences. There is also a huge library of public domain software for downloading.

Compuserve

CompuServe is one of the largest networks, and serves anyone who has a computer and is willing to pay the fee. They have no monthly charge, and the cost is $6.00 per hour at 300 baud, or $12.50 per hour at either 1200 or 2400 baud. They offer a very wide range of services, with sections for stock reports, for data base research, private or public 'chats' in C-B style, news areas, a shopping mall, and areas for many interest groups. The editors of the TRANSACTOR magazine keep up two parts of the Commodore section, CBMPRG and CBMCOM - the programming and communications sections for all Commodore machines except the Amiga. There is a separate section for it. Each of these interest groups offers message sections and various libraries of text and programs that can be downloaded (or uploaded to). Most interest groups have conference times two or three evenings a week at which members type comments to each other, trying to keep a sensible conversation.

Two networks my friends recommend highly, but which I have not tried, are GENIE and PEOPLELINK. Their fees are slightly lower than those of CompuServe, and they have large followings among both the Commodore and Amiga owners. A great deal of public domain software appears first on these networks. Their offerings are quite similar to those of CompuServe in all ways.

Bulletin Boards

On a smaller scale, we have networked bulletin boards. These typically have message sections where one can read or leave messages, and software libraries for downloading. The networked boards, such as the FIDONET boards, differ from a regular local bulletin board in that once each night they go off the air to users while they download new information and messages from one board in the network and then send that same information along to some other board in the network. I this way, national coverage is given, though it may take a day or two to get across the country. I believe there are also FIDONET nodes in England. Of course, there are also many bulletin boards run by individuals with various sorts of features selected by the operators.

StarText

In the Dallas-Fort Worth area, we have a videotext service we consider to be unique. It is called STARTEXT, and is sponsored by the local newspaper, the Fort Worth STAR-TELEGRAM. This service was begun several years ago under joint sponsorship of the newspaper and the Tandy corporation - which has its headquarters here. In its earliest form, STARTEXT ran on a TRS-80 Model I. From that, it has grown to serve about 3000 members from these two counties, and now has 53 telephone lines to serve us. The equipment includes several VAX computers - four, I believe. Through STARTEXT, we can get more news than is offered by the newspaper because almost everything that the paper receives is immediately put up on STARTEXT, whether it makes it to the next edition or not. The news is placed in sections so that it is easy to locate things you want - for instance, the keyword STATE will find headlines about state news, while METRO brings up headlines about things happening within the two counties. Want ads appear on STARTEXT 24 hours before they come out in the paper. Stock market reports are offered, there is an on-line encyclopedia, airline schedules are available, and one can bank from home through their home-banking service. The latest in sports news is always available, along with a wide range of business services and reports.

Perhaps the most interesting part, though, is the wide range of subscriber-written columns. Topics may range from high-school doings to gardening to

eye-care. If a subscriber wants to write a column, he sends a sample and if he gets enough interest, he has become a columnist. A book published there by chapters is now to be published on paper. Many of the columns, of course, are about computers. You might be surprised to find your own Mike Todd there! About two years ago, Mike gave me permission to put some of his material into a column so long as he and ICPUG were given credit for it. I type in his material and it is in a column using his cute title, DISKPHILE. My own column is called AmigaNews.

We also have Email, a general message area and other such commonly offered things. But we have users' meetings where users and staff exchange ideas for improving the service and just get acquainted. There are occasional picnics, etc. And every member can leave messages for any member of the staff at any time. It is rare for a day to go by without getting an answer.

STARTEXT has now become self-supporting - in fact, it is turning a small profit. We understand that it is the only profitable service of its kind in the States. Since we can have unlimited amounts of connect time for our $9.95 per month, most of us spend a great deal of time there. We are terribly proud of it, because we all feel that we are not just customers - we are members.

Another interesting experiment here is called PC PURSUIT. This is a special offer which permits members to make unlimited amounts of long distance calls for $25 per month, so long as the calls are both made and answered by computers. It has made it possible for many otherwise small and local bulletin boards to gain national attention, such as the SOFTWARE DISTILLERY board, which offers John Toebes' latest public domain things for the Amiga.

All of these things may soon end for us. A federal court is studying a decree that would add about $5.00 per hour to the cost of accessing any board that is not located within the local calling area. They claim that other users are subsidizing the long-distance lines being leased by these services. According to latest estimate, long-distance fees might drop by about 1/2 of 1% if we are forced to pay these extra charges for telecommunications. We should have a ruling on the matter in late October, and the new fees would take effect on January 1. Should that happen, I fear that all of my own telecommunicating will be limited to STARTEXT, and that many of our networks will not survive.

***

MUSIC AND THE 128

by Colin Baldwin

As a musician using a Commodore 128 (in 64 mode) to control musical instruments and following Mike Todd's 'Amiga Watch' in the July/August issue, with its section on MIDI (Musical Instrument Digital Interface), I felt prompted to commit some thoughts and experiences to floppy disk. I am unable to comment on the sound chip resident in Amigas except to say that the one demonstration which I have heard, under very unfavourable conditions, seemed to suggest that the Amiga's sound performance is nearly as reliable as the rest of its performance.

I use a Technics K300 and a Yamaha DX7 (keyboards, not motor-bikes) connected via MIDI to a C128D using an E.M.R. (Electromusic Research) C64/MIDI interface, together with E.M.R. 'Miditrack' sequencer program. If I had an Amiga I might regret that the way I use my equipment precludes the use of the computer's own sound chip but after the DX7 no-one could possibly want SID anyway; a Mini Clubman is great until you drive a Porsche! Basically, the K300, which is capable of receiving three MIDI channels simultaneously, provides accompaniments on its limited variety of 'voices' whilst the DX7 gives the 'solo' melody performance; as Mike says, it's a shame that so few synthesizers handle multi-channels (as the fairly-cheap-and-cheerful K300 does - whilst the DX7 can receive only one) - but more of this later.

MIDI

MIDI is a glorious example of how the world of digital electronics can, with the greatest of ease, avoid Commodoring itself in the foot, to paraphrase what I suspect is the most used expression in the conversational repertoire of 'The Average ICPUG Member'. When the standard for MIDI was set, every manufacturer agreed to adopt it and though inevitably there are one or two situations where the most completely esoteric features of one or two synths may be down to 99.9% compatibility, one may with total confidence assume that by linking them with a pair of 180 DIN leads (no fancy, expensive interface cables here!) they will perfectly happily 'talk' to each other.

The story of MIDI began when Sequential Circuits (a manufacturer) produced a polyphonic (it plays more than one note at a time) analog (it relied on voltage changes rather than digital events) synthesizer (it produced organised sounds, ie. music, at the instruction of the operator, these sounds originating electronically rather than acoustically) called the Prophet-10.

The Prophet-10, which was introduced in 1981, contained two Prophet-5s and a polyphonic digital sequencer within one unit. (A sequencer is a device for recording on microchip memory devices instead of magnetic tape: very fashionable and very efficient). Each of the three independent devices needed to intercommunicate. There was no way of doing this easily so the designers invented their own. It was clear that soon all synthesizers would be microprocessor controlled and Sequential, decided to share their ideas with the music and computer industries. At the 1981 Audio Engineering Society convention, proposals were put forward for a standard based on the Prophet-10 internal interface. The major Japanese manufacturers were also invited to accept the proposed standard. Within a year every one of the world's major synthesizer manufacturers, including the ones who objected, installed MIDI in their instruments.

The success of MIDI is due to its downright common-sense, because parallel devices are expensive to make tough enough for pop groups, it is a serial device with a transmission rate of 31250 Baud: fast enough to avoid detectible delays in performance. Not quite greased lightning but good for 1981. And it is inherent in the concept of MIDI that if the baud rate is increased compatibility with existing equipment must be maintained. But just what do synthesizers talk to each other about? This is where MIDI is at its most remarkable, because if the received information is not understood, rather than have a nervous breakdown (musicspeak for program crash) the receiving synthesizer totally ignores what it is being told and waits patiently for the next understandable information, however many nanoseconds away that may be. For example, every synthesizer has a keyboard so they all recognise key on and off flags, but only a touch-sensitive keyboard such as the DX7 (which plays louder if you depress the key faster) will take any notice of key-velocity signals. Similarly, the DX7's voice parameters are going to make only limited sense to a Casio CZ1, even though each device can (not necessarily 'will') transmit all of it's data just in case it will be needed.

The Yamaha DX7

Now back to Mike's belief that the DX7 is not multi-timbral (ie. it will produce only one 'voice' at a time under MIDI control). True, it will receive only any one of the 16 available MIDI channels, due no doubt to the fact that at its unveiling in 1983 it was one of only three digital synthesizers in the world, and the only one at less than $2000. The other two each cost in excess of $30000, and it was in on the ground floor (the basement?) of MIDI. Small wonder that with the speed of electronic device developments there have been attempts to overtake the DX7. Big wonder that overall all attempts have so far failed: even

the DX7 II is not significantly better.

The DX7 is a computer. Pure and simple. It's only concessions to music are a keyboard, some musical words on it's control panel and a DAC (digital to analogue converter for the amplifier signal). No-one can copy its processes without paying royalties to Yamaha! So it remains unique. And being a computer, it can be programmed. Its Program is nothing new. It was written in the late 60s and early 70s at Stamford University. It analyses a 'voice' into considerably in excess of 100 component parts with up to 99 settings for each component. Yamaha bought the patent and quietly grew it into the DX7 all musicians know and love (even the 'classical' ones like myself). And being a program, if it can be accessed it can be modified. And it can; thanks to Yamaha's hardware design.

Unfortunately, its programming is about as user-friendly as the latest offering from Professor Rubik (i.e. worse than Commodore BASIC2 disk, music and graphics commands). Therefore the majority of DX7 users use only its 128 pre-programmed voices: they should have bought electronic organs. But unlike many attempts at unravelling BASIC2 obscurities, DX7 programming is one of the most rewarding occupations a computer-musician can imagine. Voices can be programmed to vary so much over different parts of the keyboard that it is impossible for a listener to believe that only one instrument, and only one selected 'voice' is playing. Of course, this can give rise to some pretty peculiar performing techniques, but that is where the C128 comes in, it's sequencer program storing the performance of one 'voice effect', the next 'track' storing the next performance using a different playing technique, designated to the same MIDI channel because the DX7 can read only one, and so on. The C128 is indeed made capable of recording the actual manner in which one's fingers play each individual note. Then all are played back simultaneously into the DX7 which responds as it has been programmed to do. Perhaps the final delight of MIDI is that even the DX7's internal voice-programming can be stored on disk by the C128 and 'reinstalled' in the DX7 at will.

Wouldn't it be nice to end on such a 'high'? Unfortunately, though, MIDI standardisation seems to end at the expansion port and not one of the several Commodore/SFX music programs which I have tried and which all claim to be 'MIDI compatible' will produce anything but an immediate program crash when I switch to MIDI mode with the interface connected. Oh, well, it was nice while it lasted, and on a scale of 1 to 10 the EMR Miditrack sequencer and interface scores 11 and will do everything which dedicated sequencers costing ten times as much can do.

***

REVIEW - UNIVERSAL PRINTER INTERFACE

by Richard W Brown

I have, no doubt like many of you, been searching for the ultimate printer interface, one you can just plug in and use, an interface that will really interpret and convert Commodore printer codes into 'standard' codes for use on non-Commodore printers. Well, read on... I've found one.

The advertisement for this interface went along the lines of: "Plugs into the serial port and makes the computer believe it is connected to a CBM printer (where haven't you seen that line before). You set the interface, via dip switches, to match your printer and therefore allow you to print all CBM graphics and screen codes." ("Oh yes," I hear you say, "but can it make the tea as well?"). So I took the first step and ordered one, with the addition of a built in 8K Buffer ("What a mug" I hear you cry). I waited nearly two months before it arrived: the company supplying them had to wait for the next shipment. As it happened it arrived on my day off (what a stroke of luck).

The interface consists of a small blue box about 2 1/2" by 2" with the standard Centronics-type plug built into one end, and a standard CBM serial lead (about four feet long) sticking out of the other. The manual, although small, is very informative and assumes no previous knowledge of printers or interfaces. Having read the manual, the first thing to do was open up the interface and follow the instructions so it could be set up to my particular printer.

I own a Canon 1080A printer, which is as near as can be, timing and code wise, to an Epson MX80 type. My printer wasn't listed, but the Epson was, so I set five of the eight dip switches as indicated for that printer. Of the remaining three switches, Switch one is for the device number, either 4 or 5; Switch seven doesn't do anything; and Switch eight is for 'Auto-line-feed'. The power comes from one of three sources: the printer (that is, pin 18), an external supply, or from the cassette port (a lead is supplied). I use the 5 volt supply from the cassette port as it is easy to add a switch.

The print test, listed in the manual, worked first time and 'FRED THE FROG' appeared on my printer paper. The manual goes on to explain about the five different secondary addresses which are available to the programmer.

0 = normal CBM upper case and graphics
7 = same as pressing C= and shift: upper/lower case and some graphics.

By using one or other of these secondary addresses your printer will now be partly or fully CBM compatible. The control codes explained in your printer manual (ESC 27s) will not work, instead you must use the special CBM commands, exlained in the manual, and summarised here:

CHR$(10)	new line
CHR$(13)	new line
CHR$(8)	set graphics mode
CHR$(14)	double width characters
CHR$(15)	single width characters
CHR$(16)	define print character position (low resolution only)
CHR$(27)	fix dot position (hires only)
CHR$(26)	repeat graphic byte
CHR$(17)	set cursor down mode
CHR$(145)	set cursor up mode
CHR$(18)	reverse characters on
CHR$(146)	reverse characters off
CHR$(22)	select 6-dot mode
CHR$(23)	select 8-dot mode

I'm not sure if the following printout will be reproduced ok but here goes. With the Universal Interface program listings look like:

PRINT#1, this is a HASH symbol and not
PRINT£1, this is a pound sign
#£#£#£#£#£#£#£#£#£#£# printed as hash pound hash pound etc.

1 = transparent mode
2 = as 1 but CBM ASCII converted to normal ASCII

These two secondary addresses allow you to use all of your printer's capabilities, receiving everything that it is sent without any interpretation.

3 = locks the secondary address into the last one used

Modes 0 and 7 do actually work! Listings include CBM graphics, screen codes and so on. Not only that, but the MPS 801 control codes also work without any trouble (my trusty Canon thinks its actually a CBM MPS 801 printer). I have had this interface for nine months now, and it works without problem on:

Superscript	Epson default and secondary address of 1 or CBM printers with a secondary address of 0
Superbase	PDEV 4,1,0:PDEF 1
Misc WPs	Easyscript, Micro Swift, Print shop, News Room
CP/M mode	PIP, Word Star
C128 mode	CAD 128, Blazing Paddles, and every other piece of software that can use a printer that I own or have been able to borrow.

I have found that if I am unable to change the secondary address used from within a program, then typing in:

OPEN 1,4,1: PRINT#1," ": CLOSE1:
OPEN 1,4,3: PRINT#1," ": CLOSE1

will enable that particular program to work with no further problems.

The Universal Centronics Interface does everything it claims to do, except make the tea. I purchased mine from Meedmore ltd of Merseyside at a cost of £65.95 inc vat and P+P. How did I manage without it? [Contact Discounts Officer for Member's prices - Ed]

***

REVIEW - JUBILEE

by Tony Bailey

Reading a now defunct computer magazine I came across a reference to an eccentric American gentleman named Monty Lee Stark. To prove that eccentricities are not confined solely to the English this man spends his life giving away a computer program called 'JUBILEE'. Shareware this most certainly is not because I have yet to find any reference to sending a donation if satisfied; indeed the reverse is true as I shall relate. Being curious I sent off a disk post haste by airmail to the USA and within a short time received back a 'JUBILEE' disk.

Loading takes a fair time and when complete you are asked for the hour at the bottom left corner of a dark screen, followed by minute and then am/pm. The appropriate responses place the time on the screen, and pressing y takes one to a request for day, month and year, and again pressing y takes the

information provided and prints it on the screen in ever changing multi coloured reverse field bars. Included is a Bible reference, Luke 6.38, the gist of which is give to others and God will give to you in equal amount - a new type of Shareware! Pressing any key takes one to the sub-title screen, giving details of the author, version number, and details of the next stage. Pressing function key f1 goes to the main screen, f7 displays explanations and f8 returns to BASIC.

Pressing f7 provides one with greater detail on the use of function keys and tells us that these keys are contextually operative throughout the program. Pressing any other key now returns you to the function screen; press any key and the main access screen appears, music is performed, and the composition title, time day and date will be displayed at the bottom of the screen above a menu bar.

The menu bar contains "c" for create; "r" to recall (view, modify or print) previously created screens; "t" to reset time or date, view month or year calendar, get number of days from now until some other date, or set alarm; "d" to view disk directory, delete a series of screens, backup screen or copy JUBILEE disk.

Using the c and r options are obvious but pressing t reveals a screen menu with some seven options: 1 Reset time; 2 Reset date; 3 Calendar for current month; 4 Calendar for year or any other year one cares to specify between 1582 to 4902!! Did you know that Christmas day in the year 4902 falls on a Thursday? To paraphrase Michael Caine 'not many people know that'; 5 How many days until?; 6 Set time to return to music; 7 Return to music.

Pressing d reveals a further screen menu with five options; 1 View directory; 2 Delete screens; 3 Backup screens; 4 Copy JUBILEE program disk; 5 Return to music. Directory, backup and copy may access a second disk drive (device 9) or the second drive of a dual system (device 8, drive 1). A single drive backup returns to BASIC on complettion. Attempting to access a non existant drive will crash the system.

One problem with this program is of course that time refers to American (60Hz) Commodore clocks which means it always runs much slower than it should. Secondly, being as kind as one can, the music can best be described as a dirge - though interesting - it can mercifully be switched off. Finally the constantly changing border colours can jar the eyes.

On the whole an interesting program which works. What a calendar! I am sure that such an item would make a welcome addition to the ICPUG library. I find this program ideal as a notepad or scratchpad to record ideas and then expand upon them, the ability to delete whole screens being useful.

***

VIZASPELL HINTS

by Peter McDonald

Having used the 64 version of VIZAWRITE (and VIZASPELL) for three years, and the CLASSIC version of both for a year, I was delighted to see that, at least for the time being, the ICPUG Newsletter is to be produced with the aid of VIZAWRITE CLASSIC. I am a VIZA enthusiast, but sometimes feel that the manuals do not do justice to the versatility of the programs. This is particularly true in the case of VIZASPELL. So here are a few hints. I hope that at least a few will be new to VIZASPELL users. Some, of course, will apply to other spell-checkers, too.

Quick copy dictionary

When using the 64 version of VIZASPELL, I (of course) kept a backup disk. As new words were added, the backup became out of date, so I used the 'copy dictionary' routine after integrating the new words on the work disk. The backup disk, having had the updated dictionary copied on to it, became the new work disk and the superseded disk was kept in reserve until the next update.

This (see below) can be done with VIZASPELL in the CLASSIC version. However, if you are using the comprehensive dictionary supplied by VIZA, plus your own additions to it, the copying process can take a long time. But there is another way of keeping the backup disk (more or less) up to date. Suppose you have reached the stage where enough new words have been added to make it worthwhile using the 'INTEGRATE USER DICTIONARY' command. Before you do this on the work disk, use the FILE-LIST command, with that disk in the drive. Run the cursor down the list until it is opposite 'vs. user. dict'; then press RETURN. Because the user dictionary is itself a VIZAWRITE document, it will now load into the computer and appear on the screen. You can then remove that disk from the drive and insert the backup disk.

Now use the FILE-REPLACE command to substitute the up to date user dictionary for the old one on the backup disk. Then use the INTEGRATE USER DICTIONARY command with the backup disk still in the drive. Finally, remove it, insert the work disk into the drive, and use the INTEGRATE USER DICTIONARY command. This will leave both the work disk and the backup disk completely updated. (When the user and main dictionaries are integrated, the data is compressed so that the program works faster.)

It sounds a lengthy process but in fact does not take all that long. The

alternative is to INTEGRATE USER DICTIONARY on the work disk and then copy the whole of that disk to the backup disk. I think you will find my method quicker.

Avoiding disaster

A system helps here. The real disaster with VIZASPELL, especially if you have spent a few months building up your own dictionary (see below), would be to wipe it out by mistake. So it is even better to keep two backups. When your work disk (No.1) has been in use some time, integrate the user and main dictionaries, and then put the write-protect tab on the disk. Copy the dictionary to disk No.2 which from then onwards becomes the new work disk. The No.1 disk is then stacked immediately behind No.3 disk. When the No. 2 disk has been in use some time, integrate the user and main dictionaries, place the write-protect tab on it, and copy the dictionary to disk No.3. Place No.2 behind No.1, and use No.3 as your work disk. This means that if you ever have an accident copying the work disk to the one immediately behind it, you will still have one behind that which has a fairly up to date dictionary on it.

Correction, please

One snag with the 64 version of VIZASPELL was the difficulty of dealing with the case where you inadvertently 'added' a misspelt word. There seemed no obvious way of amending it once it was on the disk.

Life is easier with the CLASSIC version. As already mentioned, the user dictionary is a VIZAWRITE document and you can load and view it on the screen. As the words are arranged in alphabetical order, it is an easy matter to locate the wrongly spelt word. After you have corrected the spelling, as you would in any other VIZAWRITE document, use the FILE-REPLACE command to save the amended version of the user dictionary to disk.

What if you forget to correct it at that stage and, by using the 'Integrate User Dictionary' command, get the wrongly spelt word permanently on the main dictionary? You can still put things right. You load the user dictionary (see above) and then add the wrongly spelt word to it. Then try to integrate it with the main dictionary. When the maverick word is reached, a message will appear on the screen indicating that the word is already in the dictionary. At that stage you are given various options, including the option of deleting it from the main dictionary.

The disappearing document

Have you ever felt sure that you saved a document whilst using VIZAWRITE but have been unable to find it later on any disk? (This happened to me more than once until my mistake registered with me.)

Did you really forget to save it? Well, it is possible, though not probable, because if you try to quit a document without saving it, VIZAWRITE puts a warning message on the screen. Before you tear out your hair, just put your VIZASPELL work disk into the drive and use the FILE-LIST command to inspect its contents. You might find your missing document there!

Why? If you are like me, you could run the spelling-check on a document, correct the errors, add the new words, and then (either before or after printing) save the document to disk. If (like me) you sometimes forget to remove the VIZASPELL dictionary disk, you will, of course, save the document to that disk, not to one of the work disks.

Make Empty Dictionary

This is the command which makes one wonder if Mr Lacy (the author of VIZAWRITE) is Irish after all. The manual makes it clear that the idea is to fill the dictionary as you go along. You need a printed dictionary, or some confidence in your own spelling ability, before you embark on this venture. However, if you persevere with it, you will find that the speed with which it operates is its own reward.

Why speed? Well, the dictionary supplied with VIZASPELL contains 30,000 words. Few of us have a working vocabulary of that size. Therefore, if we check our documents against that dictionary we are checking against thousands of words we are never likely to use. And if we write any technical material, we shall have to keep adding words to the dictionary anyway.

Of course, with the empty dictionary, the first time you check a document, it is pretty hard work. Except where a word is repeated, every word in the document has to be added to the dictionary. That is why your spelling must be good. But if you deliberately put a longish document through the check first, you will find the second document not too bad because many of the words you habitually use will then be in the user dictionary. After five or six documents have passed through it, the words to be added are not many more than would be the case if you were using VIZA's giant dictionary.

But isn't there a fundamental weakness in relying on your own skill in spelling? After all, if you misspell a word and add it to the dictionary, a mistake won't show up next time you run the misspelt word through the check.

Agreed. But with most of us the spelling check is necessary not because we do not know how to spell words but because our fingers are not reliable. We know how to spell 'previously', for instance, but our fingers sometimes give us 'previoulsy'. It is that sort of mistake (or the even more common one, running two words together) which we want the checker to spot for us.

If your spelling is reasonably good, do try creating your own dictionary. My bet is that, once you have started it, you will never revert to the full VIZA dictionary for an ordinary check. Not only does your own dictionary greatly speed the checking but, when you come to integrate the user and main dictionaries, and then take a backup, you will find that, using the VIZASPELL copy dictionary command, the job (even after you have been adding to the dictionary for some months) is completed very quickly and (in my case at least) takes only one pass. But what if you do not know how to spell a word and want to check the spelling? Insert your VIZAWRITE CLASSIC disk upside down and use the SEARCH-DICTIONARY command.

Speeding things up

No doubt a future edition of the manual (mine is dated October 1985) will explain this point. However, when first using the SEARCH-VERIFY command I was appalled at the length of time it took me to work through a document. For anyone who is reasonably good at spelling, the LEARN option is the most frequently used. Yet this involved hitting the F1. key three times. This seemed to make the CLASSIC version of VIZASPELL more cumbersome than the 64 version. But when I went to the 1986 Commodore Show, a kind gentleman on the VIZA stand told me that to use the LEARN command, you need only press the '4' key on the numeric key-pad on the right hand side of the key-board. To edit, you simply press RETURN. To ACCEPT, you press '2', and to SKIP you press '3' (both on the numeric key-pad). So, in normal usage, when you are either correcting or adding words to your dictionary, you need only use the '4' and RETURN keys. This is an immense time-saver.

All done...

Sometimes, while doing a spell-check, you notice that there are several words highlighted as unrecognised. But when you type the command for SEARCH-VERIFY and look up at the screen, you find the message 'All done', yet you know that you have not in fact corrected or accepted any of the unrecognised words. Have you found a bug? Possibly. I thought I had. But after a few recurrences, I realised what was happening. You type a document and then insert your VIZASPELL disk and do a check. Unless you are alert, when you come to do the SEARCH-VERIFY, only the last 19 lines or so of your document are on the screen. Thus, they are the only lines which are 'searched-and-verified'. If they have no unrecognised words in them, the 'all done' message will appear, very quickly, because there are so few lines to scan. Solution: before using the SEARCH-VERIFY command, use the GO TO PAGE 1 command, so that your search will start at the beginning of the document.

Numerate letters

What is the best way of naming letter documents which have been saved to disk? The addressee's name, of course, has to feature in it. It is best, too, if the date appears, so that when you are searching the directory for a letter, you can distinguish easily between the letter you wrote to him yesterday, and the one you wrote six months ago.

With VIZAWRITE 64, therefore, I got into the habit of saving documents under names like "brown/11/12/87", which worked tolerably well. Note the use of lower case for the first letter of the title, by the way. It is easier to use lower case - no need to press SHIFT - and as you would normally use lower case for the names of standard documents (heading; fill; draft, etc) it is best to stick to it throughout. Then you never have to remember if a particular item begins with a capital or not. (In VIZAWRITE 64 you cannot have the disk directory in view when you type the name in order to 'edit existing document'.)

Of course, if the name is something like 'montgomery' and you use three 'slashes' between the date figures, you run out of characters. Even in VIZAWRITE CLASSIC you are only allowed 16 characters for the whole of the title, and the date can account for nine of them with the slashes. Ok, let's knock out the slashes. That means the maximum we shall require for the date is six characters.

One of the advantages about VIZAWRITE CLASSIC is that it automatically lists the directory in alphabetical order. That means that documents beginning with 'b' will, of course, come after those beginning with 'a' and before those beginning with 'c'. But what about figures?

I am glad to report that figures arrange themselves numerically in the directory. So, how can we turn this to our advantage? Would it be possible to get the letters listed in date order? Yes. All you have to do is the type the date in the order Y, M, D (year, month, day). Thus, Fifth November last would be 871105, and VIZA CLASSIC will place that between 871104 and 871106. In other words, it recognises that 871105 is higher than 851104, and less than 871106 and it arranges them accordingly. Because of the Y, M, D order, the later dates are always represented by higher numbers than the earlier ones.

So you can finish up with all the letters to a given addressee listed together on the disk, and in date order. Of course, to avoid confusion, you must use two figures for each section of the date (e.g. 05 for 5th, as in the example above). Otherwise 87112 could be either the 1st December or the 11th of February. You will still have ten characters available for the name. Obvious? Well, it wasn't to me... until I began to think about it.

***

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REVIEW --- THE PHANTOM

by Tim Raynor

Before I start, I must confess to having some interest in this product, having helped in deciding what the Phantom should do. However, I will try to produce a fair, unbiased review. Phantom is a parallel speed enhancement for the 1541 disk drive, which consists of a circuit board for the 1541, a Kernal replacement board for the 64, and a parallel cable which plugs into the User Port.

Installation of the Phantom is relatively simple. The board simply plugs in over the existing 1541 PCB, having first removed a few chips. The unit performs diagnostic checks and will very soon tell you if something is wrong! Also, a replacement kernal ROM needs to be placed in the 64/128.

Once everything was going, the first thing I discovered was an amazing speed increase. I have personally used several parallel speed-up systems and this is by far the fastest. Typically, loading speeds are 5 or so seconds! At this point, I must warn anyone who intends to buy this unit that they must be prepared to go a little thirsty, as there isn't the usual three hours in which to make a cup of tea or coffee!

Built into the kernal is a simple DOS support, and the function keys have been set up: simply press F1 and a directory will appear. There are also some other useful features including OLDing a NEWed program.

The Phantom adds a wealth of DOS commands to the drive. These are largely aimed at the programmer, e.g. print the start and end of a file, and relocate a file, but some are useful for the everyday user, including lock a file from being deleted, fast format, ignore a write protect tab and so on. Furthermore, there is a set of commands which provide a full drive monitor, allowing blocks to be read, displayed, modified and then written out again, and commands to read and edit the 1541 RAM buffers.

In case of problems, various options within Phantom can be disabled. If all fails, the new kernal can be switched out and a GO1541 command makes the Phantom board completely invisible. One point of interest: I have seen one of the designers of the Phantom try GO1541 on my C128 to get into 64 mode!

Lastly, the Phantom comes supplied with a copier program. I have tested it on many programs and have found that it successfully backs up nearly 100% of disks. I would personally like to see companies supplying standard disks that can be backed up without the need of such a program, however the Phantom copier should solve this problem.

I have been using the Phantom with a C64 and C128 for several months now. I personally don't know what I would do without it. I use virtually all of the features of the Phantom, but if you don't program, I would still recommend it for the speed alone! My only real criticism of this unit is the rather high price of nearly eighty pounds. If you are thinking about spending money speeding up your disk drive, I would recommend spending the extra and buying a Phantom rather than saving a little money and buying a cheaper system. Phantom is available from Trilogic, at Unit 1, 253b New Works Road, Low Moor, Bradford BD12 0QP. [Contact the Discounts Officer for further information on discounts.]

***

STOP PRESS - NEW 1571 ROMS

Today I received in the post from Commodore, USA, a set of new 1571 and 128 upgrade ROMs. Since this article is due to be collected and taken to the Editor, Bill Bremner, in Salisbury, in about 30 minutes from now, you'll appreciate that I only had time to do the briefest of tests with these new ROMs. You'll be pleased to know that the new 1571 ROMs (version 05) seem to have the bug fixed which caused trashing of the backside of the disk when three channels were open.

When I opened the package and installed all four new ROMs in my 128D, to my disappointment I got no power-on message displayed on screen. As time was very limited I quickly took the 128D apart again, removed the new 128 ROMs and replaced them with the old 128 ROMs for the 1571 test. (I should mention that I also had a modified 64-mode ROM in my 128D which may have been the source of the problem, either that or one of the new ROMs may have been a duff one. I hope to know more next issue when I have had time to attempt re-installation and testing.) With only the new 1571 ROM in my 128D I tried Gregg Perry's test program; success, it ran alright and all 40 records behaved normally. I also did a Validate after the test and found no 'extra' blocks free. So it looks like the 1571 ROMs are OK.

In the next Newsletter we hope to have more information of these ROMs both as to how well they work (Jim Butterfield says people in the States and Canada are happy with them) and their availability. Sorry for lack of further information but there is just no more time.

Jim Kennedy

***

SUPERBASE - MULTI-KEY ACCESS

by Peter Hauke

There's only one quick way of selecting a record, and that is to use the SELECT KEY option. The other options are too slow for normal purposes. So what do you do if you want to access your records in a variety of different methods? Consider the following: You have decided to put your club's membership onto a Superbase file. Because of possible duplications you decide to give each member a membership number and use this as the key. The other fields include surname, forename, address fields, telephone, date joined, subscription, etc. Once a month, or so, you print out a list of members in membership number order and one in surname order. If a member calls you up, all you do is ask for his membership number, tap it into the computer and up pops his record. If he does not know his number then all you do is look down the surname list, find his name, get the number and tap that in. Of course, you may need more than two lists. You may have been talking to somebody on the phone and he gave you his telephone number, but you forgot to take his name. A list in phone no. order would solve that problem.

In general, you can print out as many lists as you want (paper, time and money permitting) to access your data in different ways. As long as your database is reasonably static then there is little to worry about. A list once a month will suffice. New members can be added to the end of each list as they join. But what do you do if members are joining and leaving more often? One solution is to print out lists more often, once a week instead of once a month. This becomes time consuming, though, and once you start a print run it is not normally acceptable to interrupt it. You could buy a faster printer or even upgrade all your equipment and buy a database with multi-key access. But none of this is necessary. Multi-key access is available with Superbase! It is not easy though. It takes quite a lot of programming and careful design, but at the end of the day, it is worth it, as not only will your computer suddenly become more interactive but it will also save you money - you won't need to print out so many lists for a start!

The theory: Let's design a simple database which holds membership details and allows you to access any record by either the membership number or surname. The membership number is limited to four characters. Firstly set up a file called 'members' and a second file called 'names'. The members file contains all the usual fields and uses the membership number as the key. The

names file has a key field and three other fields: membno, surname and forename. The names file key field is made up of a combination of the first ten characters of the surname and the membership number. This ensures that each record is unique. Of course you could use fewer characters of the surname as this saves memory. Records are entered into the database under program control (see program enter.record). The program sets up two records; one in the members file stored with the membership number as the key; and one in the names file stored with the surname/membno as key. Access to any record is also done under program control (see program select.record). Selecting by membership number is exactly the same as normal direct SELECT KEY and takes exactly the same time. To select by surname is a little more complicated. Firstly you tap in the surname. The names record appears and you have to confirm that you have the right record. If there are several people with the same surname then you can SELECT NEXT or PREVIOUS until you locate the correct record by checking the forename field.

And now finally, the record formats and programs. Both files are set up with no duplicate keys. The programs are reasonably straightforward. Although this was set up on a C128/1570 system, it should work on any other Commodore and Superbase setup with only very slight modification.

File Def: club/members

	name	type	len
1	membno	Key	4
2	surname	Txt	20
3	forename	Txt	20
4	add1	Txt	24
5	add2	Txt	24
6	town	Txt	24
7	county	Txt	16
8	postcode	Txt	8
9	telephone	Txt	16

File Def: club/names

	name	type	len
1	key	Key	14
2	membno	Txt	4
3	surname	Txt	20
4	forename	Txt	20

```
1 rem save "enter-record":menu
2 ask &4"membership number"m$:ask &20"surnames"$:ask &20"forename"f$
3 file "members"
4 clear:[membno]=m$:[surname]=s$:[forename]=f$:store
5 file "names"
6 clear:[key]=left$(s$,10)+m$:[membno]=m$:[surname]=s$:[forename]=f$:store
7 file "members"
8 select m$:select r
9 ask &1"y to enter another member"q$:if q$="y"then 2

10 rem save select-record:menu
12 ask &1"m/s to select by Member Number or by Surname"q$
14 if q$="m"then gosub 20:goto 18
16 if q$="s"then gosub 26:goto 18
18 ask &1"y to select another"q$:if q$="y"then 12:else menu
20 file "members"
22 ask &4"membership number"m$:select m$:nmat 48
24 select c:return
26 file "names"
28 ask &10"surname (max 10 chars)"s$:select s$:nmat 48
30 select c
32 ask &1"c/n/p - for correct, next, previous record"q$
34 if q$="n"then select n:goto 30
36 if q$="p"then select p:goto 30
38 if q$<>"c"then return
40 m$=[membno]
42 file "members"
44 select m$:nmat 48
46 select c:return
48 display @0,7@0,147"NO SUCH RECORD EXISTS":return
```

Once you have set up the database as above and entered the programs you will be able to enter your member's details onto the database. You will then be able to access each member directly from his membership number or his surname. Of course if your system has enough disk space then you can add further keys if you want. All manipulations of the database must really be done under program control. You can imagine the problems that would follow if you simply went into the members file and changed the spelling of a member's surname! At least two more programs are required; delete.record and edit.record. You may also need check.data as well. You would run this program once in a while to ensure that records existed in both files.

One of the advantages of using Superbase is its flexibility. Unfortunately a little bit of flexibility is lost when you use multi-key access. It is therefore very important that all your programs are properly tested before you start to enter masses of records. Keep the programs simple and short. It is better to write several small programs to do separate jobs even if this means that you are duplicating code.

***

REVIEW - LOAD-IT CASSETTE ALIGNMENT AID

by Joe Griffin

Commodore machines seem to be plagued by alignment problems. Most members will be aware of the disk alignment problems of the early 1541s. Just as irritating is tape mis-alignment. Several companies have sold tape alignment programs which can be used to adjust the setting of the cassette unit. This review concerns a hardware modification to the cassette deck which can make loading errors a thing of the past.

The makers of 'Load-it' have realised that many cassettes fail to load because the slack on the tape spools which gives them the freedom to turn also allows enough movement to disturb the critical alignment of the tape read/write head. Thus users may find that most tapes load satisfactorily on their machine but one 'rogue' tape steadfastly refuses to load.

'Load-it' is a simple device, consisting of a control knob to adjust the tape alignment and a small 'loudspeaker' wired across the read head. By adjusting the control knob, the user can 'tune-in' to the strongest audio signal thus ensuring that the head is fully aligned to the tape. The great benefit of this system is that the head can be adjusted to an individual rogue tape and then back for normal use. As a calibrated scale is provided with the kit, a record of the required setting can be made so that the head can be pre-aligned for the known difficult tape.

In order to fit the device, a hole in the cassette case must be enlarged to allow the control spindle to pass through. This may take a little time and trial and error, to provide enough room but it is worth taking care as the look of the finished job is at stake. Once this has been done the spindle can be positioned and adjusted and the peizo speaker soldered across the read head.

Instructions provided with 'Load-it' are comprehensive enough to allow the modification to be carried out by anyone with the ability to solder a simple joint. I did carry out one further (non-standard) modification. I put an on/off switch in the speaker line, so that I can switch it out if necessary, to avoid the continual buzz during tape copying sessions for the library.

'Load-it', which I can thoroughly recommend to tape users, is available for just under £10.00 but a discount is available to ICPUG members (contact John Bickerstaff for details).

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FURTHER CBM - PC TRANSFERS

by Alan Hoskins

Although much has been written in recent Newsletters on the subject of file transfer between PETs and PCs, here are a few more observations which might help other members currently proceding down the same road. Transfer between machines can be accomplished using an interface such as 3D's (although I have experienced difficulties with their "New" software), but this is by no means the only option.

Some time ago a Newsletter contained code to amend the PET Kernal and provide a Centronics compatible output from the user port. This modification would allow a simple parallel-serial interface to be used between the machines provided the relative speeds of send/receive were suitably adjusted. Also, a User Port to Serial adaptor is documented in Nick Hampshire's "Pet Revealed". A further possibility would be to use a 64 with an interface such as Interpod to provide the serial connection. The 64 of course already has RS232 routines built in to it so a direct connection might also be feasible if the voltages are not too incompatible.

The only type of files that can be transferred are SEQuential or ASCII. This means it is necessary to convert other types of file into ASCII format before the transfer. Anyone who still uses PET WordPro can use a utility from ICPUG to make the conversion, while those wishing to transfer BASIC programs can use the method outlined by Henry Velleman in the July/August edition of the Newsletter - be careful of the extraneous "READYs" though! Once a program file has been received by the PC and saved to disk it will still be in ASCII format, so the simplest method of editing will be with a Word Processor or Text Editor. A WP MUST be capable of reading AND writing ASCII files without formatting in any way. I have used the editor from Turbo BASIC (Borland) with great success since the program can then be compiled, the compiler pointing out any errors previously missed!

The Search/Replace commands can be used to great effect when editing the transferred program, which can be LOADed under either BASICA, GWBASIC or BASIC2. It is best to retain the original file in ASCII so it should be copied as (eg) Copy A:PROG.ASC A:PROG.BAS. It may then be loaded as a normal BASIC program although a little slowler because it has to be tokenised in the process. Only BASIC2 saves in ASCII format at all times but both of the other

BASICs can do so by using the form SAVEPROG.xxx,A. As pointed out by Barry Oliver in the May/June Newsletter, the BASICs are generally quite compatible. The major differences lie in the Disk/Printer areas and the GET statement which has to be replaced by INKEY$. If any member requires further information on the above references I will be pleased to supply it.

***

BUYING ABROAD

I have noticed from time to time in the magazine complaints about payment facilities for goods ordered abroad. There is a facility available at your Post Office through Girobank for payment to be made on your behalf in a good many countries of the world. If speed is not essential then Girobank provide a mail based service, at modest cost. i.e. £3.50 to most countries. All Post Office branches have available a direct number to ring to provide an accurate cost to deal on that day for cash. A simple form has to be completed and money paid over and that is that. As a sub-postmaster I have used this service and have advised others all without complaint.

Tony Bailey

***

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Canada LB4 1B9

telephone (416) 731-8775

COMAL DISKS FOR THE CARTRIDGE AND 0.14

by Brian Grainger

The following disks of programs are available from me subject to the usual conditions. State clearly the title of the disk, particularly whether it is 0.14 or 2.01 side requested, and send a suitable number of disks, (one per side), and return postage. Copies will then be sent to you. Please allow for delayed return over the Christmas period and if the threatened postal strike occurs!

These disks are from the USA and back up COMAL TODAY issues 12 and 13. No instructions are provided, although usually there are no problems. Refer to me (or to COMAL TODAY) in case of severe difficulties. I will explain the more complex programs in COMAL CORNER next time. For each issue 2 disks are provided. One is for use with the disk based 0.14 version of COMAL. The other for use with the cartridge 2.01 version. There are programs unique for each version as well as some provided for both versions.

The fast loaders on the 0.14 sides do NOT work outside the USA. You are strongly advised to load COMAL from the fast loading starter disk anyway.

```
--------------------------
ct#12 version.14 ca 2a
--------------------------
6   boot c64 comal+  prg
12  enhancer-1541    prg
12  enhancer-others  prg
131 c64 comal 0.14   prg
5   comalerrors      seq
4   ml.sizzle        prg
5   sizzle.14e       prg
14  hi               prg
21  menu             prg
17  menu-enhancer    prg
1   programs.dat     seq
1   programs-e.dat   seq
13  comalhelp.txt    seq
0   ---------------- usr
0   !comal programs! usr
0   ---------------- usr
7   build'beach'file prg
2   check'book       prg
33  create'beach     prg
26  double'column    prg
44  font'editor      prg
4   free'form'db     prg
32  kellys beach     prg
6   load'font/demo   prg
14  monitor          prg
19  pic finder       prg
30  qlinksimulator   prg
22  sprite'designer2 prg
0   ---------------- usr
0   !  warning    ! usr
0   !  all files  ! usr
0   !  below this ! usr
0   ! point cannot ! usr
0   !  be loaded  ! usr
0   !-------------! usr
0   !  data files ! usr
0   ---------------- usr
```

```
1   beachnames.dat    seq
7   beachsprites.dat  seq
1   beachverbs.dat    seq
7   dat.6510opcodes   seq
1   dat.ffdb          seq
28  doubler.doc       seq
2   objecttable.dat   seq
1   verbtable.dat     seq
0   ---------------- usr
0   !listed program! usr
0   ---------------- usr
0   !  use enter   ! usr
0   ---------------- usr
3   roads'main.l      seq
0   ---------------- usr
0   !character sets! usr
0   ---------------- usr
17  font.runes        seq
9   set.art deco.b    prg
9   set.standard.b    prg
0   ---------------- usr
0   !  functions   ! usr
0   ---------------- usr
1   enhanced.func     seq
1   keyaddress.func   seq
1   val.func          seq
0   ---------------- usr
0   !  procedures  ! usr
0   ---------------- usr
1   back'side.proc    seq
1   bell.proc         seq
2   convert1.proc     seq
2   convert2.proc     seq
2   convert3.proc     seq
1   defkey.proc       seq
1   doublesided.proc  seq
1   errtext.proc      seq
1   fast.proc         seq
1   front'side.proc   seq
4   joystick.proc     seq
```



```
3   paddle.proc       seq
5   payment.proc      seq
2   quote'mode.proc   seq
4   showkeys.proc     seq
1   singlesided.proc  seq
1   slow.proc         seq
1   str.proc          seq
0   ---------------- usr
0   !  benchmark   ! usr
0   !  programs    ! usr
0   ---------------- usr
0   !    promal    ! usr
0   ! programs on   ! usr
0   !  other side  ! usr
0   !   of disk    ! usr
0   ---------------- usr
0   !    comal     ! usr
0   ---------------- usr
3   comal-ahls.l      seq
15  comal-misshd3.l   seq
3   comal-sieve.l     seq
2   comal-trig.l      seq
0   ---------------- usr
0   !     basic    ! usr
0   ---------------- usr
2   basic-ahls        prg
12  basic-misshd3     prg
2   decimal.func      seq
2   basic-sieve       prg
1   basic-trig        prg
0   ---------------- usr
0   !    pascal    ! usr
0   ---------------- usr
2   pascal-ahls       seq
13  pascal-misshd3    seq
2   pascal-sieve      seq
1   pascal-trig       seq
0   ---------------- usr
0   !for more info ! usr
0   ! send sase to ! usr
```



```
0   ---------------- usr
0   ! comal users  ! usr
0   !  group, usa  ! usr
0   ! 6041 monona  ! usr
0   ! madison, wi  ! usr
0   !    53716     ! usr
0   ---------------- usr
0   !(608)222-4432 ! usr
0   ---------------- usr
0 blocks free.

---------------------------
ct#12 version2.0 cb 2a
---------------------------
17  hi                prg
0   ---------------- usr
0   !comal programs! usr
0   ---------------- usr
28  3d'fractals       prg
7   adjust circle     prg
2   createdata'stmt   prg
2   check'book        prg
4   draw'planet       prg
4   free'form'db      prg
24  fourier           prg
12  monitor           prg
6   oki92-colortest   prg
19  pic finder        prg
4   read'dir/demo     prg
3   show&stamp        prg
19  sideways60        prg
19  sideways80        prg
0   ---------------- usr
0   !listed program! usr
0   ---------------- usr
0   !  use enter   ! usr
0   ---------------- usr
3   lst.roads'main    seq
0   ---------------- usr
0   !  data files  ! usr
```



```
0   ---------------- usr
7   dat.6510opcodes   seq
1   dat.ffdb          seq
1   sawtooth.dat      seq
1   sawtooth.dat'num  seq
1   square.dat        seq
1   square.dat'num    seq
0   ---------------- usr
0   !   packages   ! usr
0   ---------------- usr
6   pkg.oki92         seq
6   pkg.oki92-rommed  seq
33  pkg.rabbit        seq
0   ---------------- usr
0   !  procedures  ! usr
0   !     and      ! usr
0   !  functions   ! usr
0   ---------------- usr
2   func.decimal      seq
1   proc.back'side    seq
4   proc.base'conv    seq
2   proc.convert1     seq
3   proc.convert2     seq
2   proc.convert3     seq
1   proc.doublesided  seq
1   proc.fast         seq
1   proc.front'side   seq
2   proc.italics      seq
5   proc.payment      seq
6   proc.read'dir     seq
1   proc.singlesided  seq
1   proc.slow         seq
0   ---------------- usr
0   !picture files ! usr
0   ---------------- usr
0   !comal pictures! usr
0   ---------------- usr
36  hrg.sawtooth      seq
36  hrg.square        seq
0   ---------------- usr
```

```
0   ! basic bitmap ! usr
0   ---------------- usr
32  a basic bitmap   prg
0   ---------------- usr
0   !    doodle    ! usr
0   ---------------- usr
37  baseball cover   prg
0   ---------------- usr
0   !  scribbler   ! usr
0   ---------------- usr
33  scr.scribbler    seq
0   ---------------- usr
0   ! video basic  ! usr
0   ---------------- usr
37  eclipse.graph    prg
0   ---------------- usr
0   !flexidraw 5.0 ! usr
0   ---------------- usr
37  fdpirate         prg
0   ---------------- usr
0   !    koala     ! usr
0   ---------------- usr
40  light house      prg
0   ---------------- usr
0   !blazing paddle! usr
0   ---------------- usr
41  pi.colorwatch    prg
0   ---------------- usr
0   ! paint magic  ! usr
0   ---------------- usr
37  two girls        prg
0   ---------------- usr
0   !printshop icon! usr
0   ---------------- usr
3   c-64             prg
3   disk drive       prg
0   ---------------- usr
0   ! compact pix  ! usr
0   ---------------- usr
4   lightbulb.crg    seq
```



```
0   ---------------- usr
0   !  benchmarks  ! usr
0   ---------------- usr
0   !    promal    ! usr
0   ---------------- usr
2   promal-ahls.s    seq
15  promal-misshd3.s seq
3   promal-sieve.s   seq
2   promal-trig.s    seq
4 blocks free.

--------------------------
td#13 version.14 da 2a
--------------------------
7   boot c64 comal   prg
131 comal 64 0.14    prg
5   comalerrors      seq
4   ml.sizzle        prg
11  hi               prg
21  menu             prg
0   ---------------- usr
0   !comal programs! usr
0   ---------------- usr
4   1000primes       prg
33  1520-3d'airplane prg
25  1520-3d'object   prg
18  1520-shocking    prg
21  3d-view'airplane prg
13  3d-view'object   prg
22  basic2comal-p1   prg
10  basic2comal-p2   prg
3   byte'calc-5/85   prg
1   circle/demo      prg
4   cubes            prg
3   dir'probe'boot   prg
22  directory'probe  prg
31  disk'editor      prg
3   disk'editor'boot prg
1   dynamic'new      prg
1   dynamic'new2     prg
```



```
4   error'message    prg
3   keywords1        prg
7   keywords2        prg
15  print'directory  prg
6   quick'sprites    prg
32  samaritan        prg
7   sea'sick         prg
6   shocking         prg
3   sig'digits       prg
21  slot'machine     prg
5   string'art       prg
8   voc'create'data  prg
10  voc'fix'it       prg
12  voc'instructions prg
3   voc'screen'color prg
17  vocabulary       prg
23  yes'no'maybe     prg
24  zoo'match'game   prg
0   ---------------- usr
0   !  data files  ! usr
0   ---------------- usr
0   ! do not load  ! usr
0   ---------------- usr
17  comal'zoo.dat    seq
13  comalhelp.txt    seq
2   programs.dat     seq
9   samaritan.dat    seq
3   slot'sprites.dat seq
1   vocab'sample.dat seq
0   ---------------- usr
0   !  functions   ! usr
0   ---------------- usr
1   file'exists.func seq
1   ti.func          seq
0   ---------------- usr
0   !  procedures  ! usr
0   ---------------- usr
1   call.proc        seq
2   expand'ram.proc  seq
1   inkey.proc       seq
```



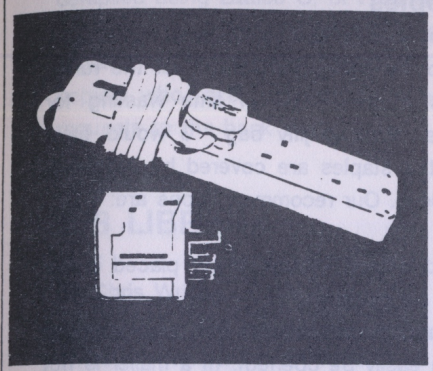
```
7   load'errors.proc seq
0   ---------------- usr
0   !basic programs! usr
0   ---------------- usr
0   ! do not load  ! usr
0   !  from comal  ! usr
0   ---------------- usr
2   1000primes.basic prg
2   byte'calc.basic  prg
2 blocks free.

--------------------------
td#13 version2.0 db 2a
--------------------------
13  hi               prg
0   ---------------- usr
0   !comal programs! usr
0   ---------------- usr
4   1000primes       prg
36  1520-3d'airplane prg
27  1520-3d'object   prg
41  1520-draw'head   prg
25  3d-view'airplane prg
17  3d-view'object   prg
3   byte'calc-5/85   prg
3   chip.1000primes  prg
29  chip.demochip    prg
2   chip.primefactor prg
9   chip.testchip    prg
5   code'doctor/dem2 prg
9   code'doctor/demo prg
12  crazy'clock      prg
7   cubes            prg
11  easyreader       prg
5   encrypt'file     prg
66  kastle           prg
13  sets/demo        prg
7   shocking         prg
3   sig'digits       prg
39  vdc'editor.pop   prg
```

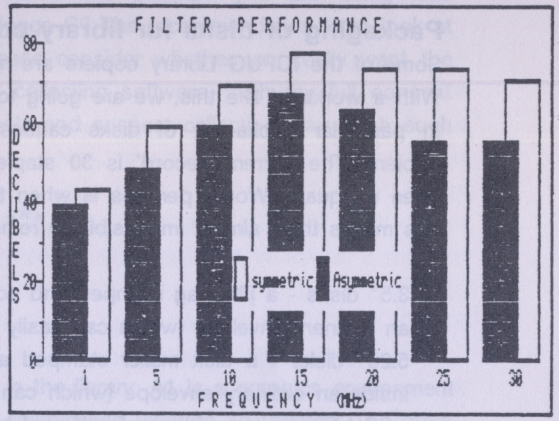
```
24  wheel'of'fortune prg
26  zoo'match'game   prg
0   ---------------- usr
0   !character sets! usr
0   ---------------- usr
0   ! do not load  ! usr
0   ---------------- usr
0   ! these fonts  ! usr
0   !  taken with  ! usr
0   !  permission  ! usr
0   !     from     ! usr
0   ---------------- usr
0   !  /speedpak/  ! usr
0   !  pob 22022   ! usr
0   !  greensboro, ! usr
0   !   nc 27420   ! usr
0   ---------------- usr
0   !copyright 1985! usr
0   !  j. blake    ! usr
0   !   lambert    ! usr
0   ---------------- usr
0   !  all rights  ! usr
0   !   reserved   ! usr
0   ---------------- usr
17  font.boone       seq
17  font.chicago     seq
17  font.newyork     seq
17  font.vilas       seq
9   set.boone        prg
9   set.chicago      prg
9   set.newyork      prg
9   set.vilas        prg
0   ---------------- usr
0   !  data file   ! usr
```

```
0   ---------------- usr
17  dat.comal'zoo    seq
40  hrg.kastle       seq
0   ---------------- usr
0   !  functions   ! usr
0   ---------------- usr
3   func.blocks'free seq
2   func.c128'in'mem seq
1   func.file'exists seq
2   func.superchip   seq
0   ---------------- usr
0   !  procedures  ! usr
0   ---------------- usr
1   proc.center      seq
3   proc.copyscreen  seq
4   proc.xactcopy    seq
0   ---------------- usr
0   !  batch file  ! usr
0   ---------------- usr
0   !     use      ! usr
0   ! select input ! usr
0   ---------------- usr
3   bat.cleanup      seq
0   ---------------- usr
0   ! source code  ! usr
0   ---------------- usr
2   src.version      seq
0   ---------------- usr
0   !   packages   ! usr
0   ---------------- usr
31  pkg.c128         seq
7   pkg.code'doctor  seq
3   pkg.quake        seq
5 blocks free.
```


Tony Firshman Services

COMPUTER CLEANERS





Many computer systems, disc drives, printers, modems, telex machines, Hi-Fi and CD systems are sensitive to 'dirty' power supplies. Voltage spikes or electromagnetic (RF) interference sent down power supplies when neighbouring equipment is switched or lightning strikes can crash or damage systems and corrupt data. We manufacture three products designed to overcome this problem - two adaptors (5a fuse) with one and three 3-pin sockets respectively and a 4-way socket (13a) with trailing lead (similar filtering circuitry). They can also reduce mains borne noise between computers and cordless phones/ FM intercoms.

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LIBRARY NOTES

by Joe Griffin

Packaging of disks for library copies

Some of the ICPUG Library copiers are now copying over 90 disks per night. With a workload like this, we are going to have to get tougher over the rules. In particular packaging of disks causes a great deal of time wasting for copiers. The current 'record' is 30 staples on one jiffy bag - 3 would have been adequate. Worse perhaps is when the staples are covered by sellotape; this makes them almost impossible to remove. Our recommendations are:

3.5" disks - a jiffy bag stamped and addressed for the return; placed inside an ordinary envelope (which can easily be opened).
5.25" disks - a disk mailer stamped and addressed for the return; placed inside an ordinary envelope (which can easily be opened). (If a mailer is not available, use two pieces of stiff card taped together and enclose a seperate envelope for the return.)

Please label the disks with what is required. It saves trying to keep a stack of letters/notes in step with a pile of disks. If you label your disk, it is a lot easier for the copier to keep track. 5.25" disk users should note that we will not supply flippies. My recommendation to all copiers is that they only copy onto the first side of the disk. Some copiers require formatted disks, others like the Amiga and PET don't. If in doubt, send formatted disks for your copies.

Disk requests

Please note that as of now, the following limits apply to requests:

Amiga - up to five disks at any request
Others - up to two disks at any request

Disk copiers

Please note that we have expanded the number of Amiga copiers, in line with demands on that service. Please refer to the list inside the back cover for exact details.

Availability of material

In line with our Public Domain policy, members may obtain all the material in

the library by successive requests. However, in particular with the Non-ICPUG Amiga disks, there is far more material available than any one member can use. Pete Miles tells me that many of the later Fish disks contain copies of material from earlier disks, with bugs fixed or merely created by using a different compiler. Does it really matter whether the program you are using was compiled using Lattice C, or Fred Bloggs C? The recommendation is to look at the higher numbered disks first. Please consider whether you really want the material on the disk or are merely collecting software. With my full consent copiers who receive repeated requests and suspect collecting may push such requests to the back of the queue.

***

128 LIBRARY

by Chris Wright

There are now a further three disks in the library. A1 is a graphics environment demo disk which runs in 2 Mhz 80 column and features 3d rotation. The other two, U2 & U3, are 128 mode disks which feature the up-to-the-minute utilities and sub-routines. I am in the process of sorting through thirty more CP/M disks to bring you the best of them. This takes some time which leads me onto the next point.

Is there anyone out there who would be prepared to become a 128 librarian? There are a few conditions: you must a) have a 1571 disk drive, b) be prepared to give time to the duty, c) have a large letter box, and d) own a crowbar to open those packets wrapped up as if they contained the Crown Jewels. Only one person is required but obviously it is best to have a few extra names in the event of illness, emergencies or retirement. Please drop me a line and include your telephone number if you are interested.

Sorry to mention this again, but the quality of packaging has only marginally improved. If you cannot get a disk mailer why not make one? A few members have made their own which fold inside out for the return of disks. If you need measurements or a diagram, please drop me a line with a stamped addressed envelope. Your disk request doesn't have to be wrapped to survive being run over by a car. An A4 envelope strengthened by a piece of cardboard and your stamped return envelope folded inside is sufficient. Sometimes it takes longer to open the packaging than it does to copy the disk. You will appreciate the problem when on one day I had 42 disk request packages. Please be more considerate with the packing. Finally, from all the librarians, Best Wishes for the festive season to you and your families, and a happy New Year.

A FORTH LIBRARY

by Richard G Hunt

I am not at all sure that this will work, but I would like to give it a try and see what happens. The idea of a Forth library was proposed by a member a few months ago in response to my article on Forth. He suggested that rather than a series of articles on "How to . . ." in Forth, which start logically at the beginning and progress somewhat slowly, why not put some Forth applications into a library from which Forth users could extract what interested them and maybe learn from other people's code. Actually there is, I think, no better way to learn a computer language than to study other people's (de-bugged) code. The idea is herewith in the process of execution. I name this library the ICPUG FORTH LIBRARY and off we go...

Naturally the ICPUG library rules apply in respect of material and copying. All is not quite as simple as that, alas. There is a major "opportunity" to overcome. Although ICPUG Forth users will use mainly CBM machines, and although of course Forth is largely portable, implementations of Forth differ in a specific area upon which a successful library is founded: I/O dependent words and the way in which Forth source is stored on diskette.

Traditionally, Forth uses disk as virtual memory, writing and reading blocks as necessary, transparent to the user (except for 1541 users who have to wait a bit). Some implementations on CBM machines, including my own PLUS4ORTH for Plus 4 and C-64, make use of RAM disk. This means that source storage may be carried out in a more familiar way, either by saving a program or sequential file or the RAM disk itself. As it should be possible for virtual memory Forths on CBM (6502 based) machines to adapt to this style one way or another, I have decided for the time being that the library will contain source filed both as standard program and sequential files. A number of utility programs (sorry, they are in BASIC) will also be held on the disk to enable those without Script/Plus or Easyscript to display a sequential file or change the load address of a program file to suit. If an implementation requires specific file naming conventions, like Forth + for the C-64, the user may use DOS to rename a file.

Next, and also most important, it is necessary to ensure that the first diskette contains Forth source that will enable the reading and writing of sequential files, still based on any 6502 CBM machine, from within Forth. I am unsure whether this will be wholly successful, especially where virtual memory

Forths are concerned. Most Forth implementations contain two disk buffers into which it should be possible to read a sequential file, and having done so write it back to disk in the "native" format. For this reason all the sequential source files will be held in sets of a maximum of 2 Forth screens per file. A series of files will comprise the whole job, which will also be held as a single sequential and program file for RAM disk users. Naturally all the sequential files can be read by wordprocessors like Superscript and its companions in title. Any file may be edited therefore into suitable chunks (I hesitate to write bite sized...).

Further, in order to accommodate implementations that do not use the standard Forth convention for editing screens of 16 rows of 64 columns (exactly 1024 bytes or 4 disk blocks), line 15 (the 16th line) will always be blank. Those with 24 rows of 40 characters will need to do some editing, but not as much as if they had to type it in block by block.

To start you off, you need the words to write and read sequential files. The 5 screens below provide them. Plus4orth users need only screens 4 and 5. The first 3 screens implement low level I/O (Kernal) words and will need careful alteration to ensure that the values of constants are changed to suit YOUR Forth and YOUR machine. Some of the addresses and constants may be defined already as part of the Assembler vocabulary. There may be distinct problems if a Forth implementation (e.g. Forth +) uses the zero page addresses for Forth which are otherwise used by Kernal routines. I regret I have no way of knowing and must leave it to you to find out!

As you can see, it is not technically easy to create a library that can be used by all. I know that there are some members who are very knowledgable about Forth, and I shall welcome contributions from them, both on the technical and material side.

To start with, source to be included in the library will include some utilities, maybe some simple games (I don't know of any complex ones written in Forth for CBM machines), and other bits and pieces from wherever and of course whomsoever. Obviously I shall be delighted to receive contributions (on diskette). Please be free with comments: a school of thought maintains that there should be one screen of comment for every screen of code. Where transportation across machines is involved this is even more necessary. It is hoped that enough material will be generated to contribute a page or two to this magazine.

So, for all those who don't know what Forth can do or be used for, I say "watch this space". Why not go out and get Forth? I could tell you to refer to another page of this magazine, but modesty forbids. For those who already know and love Forth, I say now's your chance to communicate.

```
SCR # 1
 0 ( SEQUENTIAL FILE - CBM I/O WORDS  RGH 871011)
 1 FORTH DEFINITIONS HEX
 2 ( THESE WORDS ARE ALREADY DEFINED IN PLUS4ORTH)
 3 ( BUT ARE NEEDED FOR OTHER FORTHS)
 4 ( CHANGE VALUES FOR CONSTANTS TO FIT YOUR FORTH)
 5 1056 CONSTANT NEXT    1199 CONSTANT POP
 6 E7   CONSTANT XSAVE   151F CONSTANT PUSHOA
 7
 8 CREATE (CLOSE) SMUDGE
 9   86 C, XSAVE C, B5 C, 0 C, 20 C, FFC3 , A6 C, XSAVE C,
10   4C C, POP ,
11
12 CREATE (OPEN) SMUDGE
13   86 C, XSAVE C, 20 C, FFC0 , A6 C, XSAVE C, 4C C, NEXT ,
14 -->
15

SCR # 2
 0 ( SEQUENTIAL FILE - I/O WORDS CONTINUED RGH  871011)
 1 CREATE (CHKOUT) SMUDGE
 2  86 C, XSAVE C, B5 C, 0 C, AA C, 20 C, FFC9 , A6 C, XSAVE C,
 3  4C C, POP ,
 4
 5 CREATE (CHKIN) SMUDGE
 6  86 C, XSAVE C, B5 C, 0 C, AA C, 20 C, FFC6 , A6 C, XSAVE C,
 7  4C C, POP ,
 8
 9 CREATE (CLRCHN) SMUDGE
10  86 C, XSAVE C,  20 C, FFCC , A6 C, XSAVE C, 4C C, POP ,
11
12 CREATE (CHRIN) SMUDGE
13  86 C, XSAVE C, 20 C, FFCF , A6 C, XSAVE C, 4C C, PUSHOA ,
14 -->
15

SCR # 3
 0 ( SEQUENTIAL FILE - I/O WORDS CONTINUED  RGH 871011)
 1 CREATE (CHROUT) SMUDGE
 2  86 C, XSAVE C,  B5 C, 0 C, 20 C, FFD2 , 4C C, POP ,
```



```
 3
 4 ( THESE VALUES EXCEPT DEVICE MAY NEED CHANGING TO FIT •
   MACHINE)
 5 ( MAINLY ZERO PAGE LABEL ADDRESSES)
 6 8  CONSTANT DEVICE    AC CONSTANT LA
 7 AD CONSTANT SA        AE CONSTANT FA
 8 AF CONSTANT FINADR    AB CONSTANT FNLEN  90 CONSTANT ST
 9
10 : SETLFS  SA C! FA C! LA C! ;
11 : SETNAM  FNLEN C! FINADR ! ;
12 : FILENAME  CR PAD 44 BLANKS TEXT ;
13 0 VARIABLE FSTART  : BLK-ADR 400 * LO + ;
14 -->
15

SCR # 4
 0 ( SEQUENTIAL FILE - FILE WORDS  RGH 871011)
 1 FORTH DEFINITIONS DECIMAL
 2 : SSAVE   PAD 64 BLANKS  8 (CLOSE)
 3           8 DEVICE 8 SETLFS
 4           FILENAME PAD COUNT  SETNAM
 5           (OPEN) 8 (CHKOUT)
 6           1+ SWAP DO I LIST LOOP
 7           (CLRCHN) 8 (CLOSE) ;
 8
 9 : CLRS  ( N1 N2 ---/ CLEARS SCRENS N1 TO N2)
10       1+ SWAP DO I EDITOR CLEAR LOOP ;
11 : CLEAN ( CLEANS RAMDISK SCREENS OF ASCII NULS: USE AFTER
   SREAD)
12       ." CLEANING" HI LO DO I C 0= IF ." ." 32 I C! THEN
13       LOOP ;      -->
14
15

SCR # 5
 0 ( SEQUENTIAL FILE - FILE READ  RGH  871022)
 1
 2 : SREAD   ( SCR --- / FILENAME,S,R)
 3         CR PAD 64 BLANKS 8 (CLOSE) 8 DEVICE 8 SETLFS
 4         FILENAME PAD COUNT SETNAM (OPEN) 8 (CHKIN)
```

```
 5         BLK-ADR FSTART !  ( LOAD ADDRESS)
 6         BEGIN   ST C 64 AND 0= WHILE
 7           10 0 DO (CHRIN) EMIT LOOP
 8             16 0 DO  4 0 DO (CHRIN) EMIT LOOP
 9               64 0 DO (CHRIN) DUP EMIT DUP
10           13 = IF DROP C/L I - FSTART +! LEAVE ELSE FSTART !
11          1 FSTART +! THEN LOOP  LOOP
12         REPEAT
13         8 (CLOSE) (CLRCHN) ;
14 ;S
15
```

```
SCR # 6
 0 ( SEQUENTIAL FILE - WORD USAGE)
 1 ;S
 2 THE SYNTAX FOR SSAVE IS -
 3    N1 N2 SSAVE FILENAME,S,W
 4 N1 IS THE START SCREEN. N2 IS THE END SCREEN.
 5
 6 THE SYNTAX FOR SREAD IS -
 7    N1 SREAD FILENAME,S,R
 8 N1 IS THE SCREEN AT WHICH THE FIRST TEXT SHOULD BE
 LOADED.
 9
10 SREAD SHOULD BE FOLLOWED BY THE USE OF CLEAN.
11
12
13
14
15
```

Additional notes on the code:

The machine code primitive kernal words are defined in the manner shown so as to avoid loading and compiling the Assembler vocabulary. First a dictionary header is created and SMUDGE causes the CFA of the word to point to the next available byte, i.e. immediately following. The words C, and , store the preceding value in the first available byte or cell respectively, advancing the dictionary pointer DP (and HERE) accordingly. Users will need to look up and change the addresses on zero page used by the kernal routines because they are machine dependant. Similarly the Forth entry points NEXT, POP &c. will

need changing. The words LO and HI used are constants returning the low and high addresses, i.e. bottom and top, of the RAM disk. It should be possible to change these to work with the disk buffer address indicated by FIRST, bearing in mind that disk buffers are usually 1028 bytes long and the first 4 bytes are reserved for system use. Alternatively space could be reserved (using ALLOT) for 2 screens in RAM (a pseudo RAM disk) and later transferred (perhaps using CMOVE) to the disk buffers.

***

PLUS 4 LIBRARY

by Richard Hunt

The library now consists of a catalogue disk and 7 disks of programs:

UTILITIES
OTHER
GAMES (NOT QUITE FULL)
FINANCIAL (PET programs that run on the Plus 4)
MOSTLY MATH (more PET programs)
AMERICAN1
AMERICAN2

The latter were received from a member in Florida and contain miscellaneus programs for all tastes. With the library now gaining in size, I am in future insisting on full library rules, namely :

Disks: Only 2 per request
Catalogues on disk only

Tapes: 4 programs from one disk per request
Catalogue on tape only

That is: no paper catalogues.

Other enquiries about Plus 4 matters separately please so that copying is not mixed with queries which require special attention.

***

C-64 NEW LIBRARY

by Joe Griffin

As mentioned in the last newsletter, the C-64 library has been completely revised and re-issued. Instead of the former assorted disks, the new library is issued with the programs sorted into categories of similar types. The following sets are now available.

Utilities	- 3 disks
Adventures	- 1 disk
Games	- 2 disks
Music	- 2 disks
Graphics	- 2 disks
Business	- 1 disk

Please Note - Much of this material was on the original library disks but some new programs have been added. The NEW library is only available from the copiers listed inside the back cover of this and the last issue. THE PREVIOUS COPIERS HAVE NOT BEEN ISSUED WITH THESE DISKS. The material available is listed below.

```
   icpug c64 lib     u1 2a
4     start           prg
8     menu            prg
15    list-me.u1      prg
7     4min copy instr prg
11    4-minute copy   prg
5     addresses dir   prg
1     automon         prg
16    mon-4           prg
16    mon-8           prg
16    mon-c           prg
3     intro           seq
36    instructions    seq
9     mon.src         seq
5     change dev no   prg
4     change disk     prg
10    copy-all.64     prg
93    da v3.4.wow     prg
83    instruct        prg
10    disk copy 64    prg
40    disk file 4.9   prg
2     l-sort          prg
1     dir @828        prg
33    rtl-64          prg
33    docs 4.9        seq
2     disk format     prg
22    disk manager    prg
25    disk monitor 4.0 prg
10    4.0 asm/monitor prg
6     disk rename     prg
6     disk tidy       prg
8     disk-log.64     prg
1     dos loader      prg
4     dos 5.1         prg
```



```
44    disk cmds tut   prg
4     falign check    prg
6     fast format     prg
2     load address    prg
5     quick disc      prg
3     read any seq.fil prg
16    rel file prg    prg
9     sort directory  prg
9     unicopy inst    prg
8     unicopy64       prg
5     unscratch       prg
6     scratch         prg
1 blocks free.

   icpug c64 lib     u2 2a
4     start           prg
8     menu            prg
17    list-me.u2      prg
5     !               prg
5     ! (sys350)      prg
17    !.instructions  prg
11    menu maker      prg
40    jacket maker    prg
1     micromon loader prg
17    micromon        prg
7     redirect        prg
12    redirect.doc    seq
5     renumber        prg
6     renumber.doc    seq
1     restoreclean    prg
3     restoreclean.doc seq
2     shifthold       prg
3     shifthold.doc   seq
12    superkey 64     prg
1     superkey.doc    seq
10    supermon 64     prg
22    supermon ins    prg
29    supermon+ inst  prg
13    supermon+64     prg
15    super64e3.run   prg
8     super64ex.ins   prg
7     tape directory  prg
4     tape direc.doc  seq
5     tload           prg
6     tload.doc       seq
34    toolkit+s-mon   prg
34    turbo toolkit   prg
45    basic toolkit.i seq
33    basic tools/2   seq
9     basic tools.qrs seq
27    ve2             prg
102   ve2.doc         seq
74    wedge 5.6       prg
9     zap-loader      prg
0 blocks free.

   icpug c64 lib     u3 2a
4     start           prg
8     menu            prg
14    list-me.u3      prg
17    80 column       prg
34    as 2            prg
94    as 2.doc        seq
5     autoline        prg
6     autoline.doc    seq
7     basic xref prog prg
3     basic xref.doc  seq
7     color coexist   prg
27    com-to-cpm      prg
2     com-to-cpm.doc  seq
6     cross-ref64     prg
27    disassembler    prg
3     disassembler.doc seq
11    disk back-up    prg
26    disk patch      prg
4     disk patch.doc  seq
15    diskdoc revised prg
6     diskdoc.doc     seq
64    diskview+       prg
2     diskview+.doc   seq
```

```
9   filesort64          prg
54  list all.wow        prg
25  list all            prg
12  lister.v64          prg
44  lister.wow          prg
4   merger              prg
3   read directory      prg
11  retriever 64        prg
3   save from prg       prg
17  seq.file rdr        prg
3   smooth.boot         prg
13  smooth.docs         seq
40  smooth.edit         prg
2   smooth.time         prg
6   ultraload           prg
25  blocks free.

    icpug c64 lib    g1 2a
0   ---------------- seq
0    games disk 01   seq
0   ---------------- seq
5   !                prg
9   menu             prg
9   list-me.g1       prg
0   ---------------- seq
26  aircraft lander  prg
0   ---------------- seq
1   astro panic      prg
7   astro panic 2    prg
0   ---------------- seq
15  cliffy           prg
0   ---------------- seq
8   connect 4        prg
0   ---------------- seq
19  diamond drop     prg
0   ---------------- seq
37  fruit machine    prg
0   ---------------- seq
18  jet set jelly    prg
0   ---------------- seq
```



```
13  life             prg
0   ---------------- seq
9   mastermind       prg
0   ---------------- seq
8   min2.ins         prg
13  minoton 2        prg
0   ---------------- seq
99  monopole 64      prg
0   ---------------- seq
24  othello          prg
0   ---------------- seq
13  othello for 2    prg
0   ---------------- seq
23  poker            prg
0   ---------------- seq
42  pontoon          prg
0   ---------------- seq
88  supertrek        prg
0   ---------------- seq
68  3d tank          prg
0   ---------------- seq
22  threedox         prg
1   ---------------- seq
18  blocks free.

    icpug c64 lib    g2 2a
0   ---------------- seq
0    games disk 02   seq
0   ---------------- seq
5   !                prg
9   menu             prg
8   list-me.g2       prg
0   ---------------- seq
1   alleyoop         prg
160 alleyoop.pb      prg
0   ---------------- seq
10  br               prg
46  bridge.mc        prg
0   ---------------- seq
52  commodore 3dmaze prg
```



```
0   ---------------- seq
33  crazy caveman    prg
0   ---------------- seq
51  gulper           prg
0   ---------------- seq
26  pengo            prg
0   ---------------- seq
34  qix              prg
0   ---------------- seq
65  smurf 2 revenge  prg
0   ---------------- seq
49  swoop            prg
0   ---------------- seq
37  the a-team       prg
0   ---------------- seq
78  blocks free.

    icpug c64 lib    a1 2a
0   ---------------- seq
0   adventure games  seq
0        disk 01     seq
0   ---------------- seq
5   !                prg
8   menu             prg
7   list-me.a1       prg
0   ---------------- seq
56  adventure 64     prg
0   ---------------- seq
1   bloody advent    prg
17  blood1           prg
53  blood2           prg
0   ---------------- seq
1   the gold icon    prg
4   pass1            prg
121 pass2            prg
5   pass3            prg
0   ---------------- seq
2   kreen 2          prg
17  akreen 2         prg
121 bkreen 2         prg
```



```
0   ---------------- seq
62  blocks free.

    icpug c64 lib    m1 2a
0   ---------------- seq
0    music disk 01   seq
0   ---------------- seq
5   !                prg
9   menu             prg
7   list-me.m1       prg
0   ---------------- seq
13  a little peace   prg
0   ---------------- seq
109 bach fugue       prg
0   ---------------- seq
35  evergreen        prg
0   ---------------- seq
27  ewok theme       prg
0   ---------------- seq
35  frosty           prg
0   ---------------- seq
49  goliiwog         prg
0   ---------------- seq
6   happy birthday   prg
0   ---------------- seq
31  invention in c   prg
0   ---------------- seq
9   march in d       prg
0   ---------------- seq
31  minuet           prg
0   ---------------- seq
46  polonaise        prg
0   ---------------- seq
11  prelude          prg
0   ---------------- seq
59  rainbow          prg
0   ---------------- seq
4   rhapsody in blue prg
0   ---------------- seq
24  starwars music   prg
```

```
0     ---------------- seq
25    the entertainer  prg
0     ---------------- seq
26  blocks free.

  icpug c64 lib    m2 2a
0     ---------------- seq
0      music disk 02   seq
0     ---------------- seq
5     !                prg
8     menu             prg
6     list-me.m2       prg
0     ---------------- seq
145   gigue            prg
0     ---------------- seq
42    gigue 1          prg
0     ---------------- seq
26    sid's jukebox.64 prg
84    -sid.songs.4800  prg
7     -sid.vsmon.4000  prg
1     -sid.george.0340 prg
5     note table       seq
0     ---------------- seq
26    superman iii     prg
0     ---------------- seq
23    superman ii      prg
0     ---------------- seq
74    swinth sample    prg
0     ---------------- seq
212  blocks free.

  icpug c64 lib    r1 2a
0     ---------------- seq
0     graphics disk 01 seq
0     ---------------- seq
5     !                prg
9     menu             prg
8     list-me.r1       prg
0     ---------------- seq
10    american flag    prg
```



```
0     ---------------- seq
66    amiga demo.us    prg
0     ---------------- seq
66    amiga demo       prg
0     ---------------- seq
15    auto-graph       prg
0     ---------------- seq
2     demo hires       prg
0     ---------------- seq
2     hires disk       prg
2     hires tape       prg
32    cave man         prg
32    man              prg
32    pattern          prg
33    satellite        prg
32    snail            prg
0     ---------------- seq
64    plot hires bg    prg
0     ---------------- seq
3     slideshow.c      prg
4     hrsupp.d         prg
32    blither.d        prg
32    glockenflute.d   prg
32    ronnie.d         prg
32    slady.d          prg
32    tank.d           prg
32    uncle.d          prg
0     ---------------- seq
55  blocks free.

  icpug c64 lib    r2 2a
0     ---------------- seq
0     graphics disk 02 seq
0     ---------------- seq
5     !                prg
8     menu             prg
8     list-me.r2       prg
0     ---------------- seq
11    colpixshow       prg
1     -colpixmove      prg
```



```
40    kpic j 1-1-84    prg
40    kpic m patrol2   prg
40    kpic o clown     prg
40    kpic k jim b.    prg
40    kpic m design1   prg
40    kpic b girl      prg
40    kpic t thatsit   prg
0     ---------------- seq
34    g-toolkit 2.0    prg
4     g-toolkit demo   prg
0     ---------------- seq
1     hi-res loader    prg
18    hi-res designer  prg
0     ---------------- seq
19    sprite editor    prg
51    sprite editor.2  prg
45    sprite editor.i  seq
44    sprite editor/2  seq
6     sprite ed.qrs    seq
0     ---------------- seq
129  blocks free.

  icpug c64 lib    b1 2a
0     ---------------- seq
0     business disk 1  seq
0     ---------------- seq
5     !                prg
9     menu             prg
13    list-me.b1       prg
0     ---------------- seq
39    amort table      prg
0     ---------------- seq
```



```
13    bar graph 2c     prg
0     ---------------- seq
37    calendar         prg
12    print diary      prg
0     ---------------- seq
63    checkbook        prg
30    checkbook report prg
0     ---------------- seq
4     cont indexer 64  prg
0     ---------------- seq
107   investment2c     prg
0     ---------------- seq
49    mail list/labels prg
2     info gemail      prg
7     mail labels.doc  seq
0     ---------------- seq
41    mail.64          prg
0     ---------------- seq
27    memo             prg
0     ---------------- seq
45    mortgage         prg
0     ---------------- seq
25    speedscript 3.2  prg
31    speedscript.doc  seq
8     speedscript conv prg
22    speeds.to.basic  prg
3     speeds.to.ba.doc seq
0     ---------------- seq
1     wp               prg
34    4.instructions   prg
15    wp.15dec.mc      prg
0     ---------------- seq
22  blocks free.
```

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DISCOUNT CORNER

Please refer to pages 82/85 in the January/February issue for general information, pages 203/204 in the March/April issue, pages 298/299 in the May/June issue, pages 403/405 in the July/August issue and pages 507/509 in the September/October issue for more discount details.

Telephone calls

Please make your calls to me after 8.30 pm and before midnight. If I should be out please leave your name, 'phone & membership number and brief details of your requirements on the answerphone - I will call you back later.

CBM hardware

Commodore have announced that they will be producing 80386 processor PC compatibles which will be called the 6040 and 6080, the last two figures represent hard disk capacity in MB. Both machines will have EGA cards, the smaller machine sporting a 5.25 inch floppy, the larger a 3.5 inch one as well. Prices about £2000 and £2700. MS-DOS 3.2 is to be provided. The 1581 3.5 inch drive for the C128/C64 machines is not available from CBM UK yet but it is available to members from Bytes & Pieces.

The Amiga Centre --- Scotland (was Arithmos) --- is at 4 Hart Street Lane, Edinburgh, EH1 3RN --- telephone 031-557 4242 and your contact is Martin Lowe. You may obtain current copies of Amazing Computing at £3.50 and Ami Project at £3.00 each post paid from this supplier. Also available now is BUTCHER 2.0, reviewed elsewhere in this issue. The Amiga Workstation (in three basic forms) is now available which includes 68020/68881 processors running very fast. To own an Amiga that will run 5 times faster than a VAX 11/780 why not talk to Martin Lowe now.

Bitstream Publishing of 26-28 Osborne Road, Southsea, Hants, PO5 3LT have announced their Amiga Users Pack of INFOMATS at £9.95 the set (£4.95 singly). These cover the AmigaDos/Guru, the ED & EDIT commands & Printer Functions mats. There is also an MS-DOS INFOMAT at £4.95. All items less 10% to members. Please send your cheques directly to them. Overseas orders £1 extra please.

COMPUNET are to continue special offers on modems with software for the C64/C128 and now the Amiga. The Amiga facility goes on stream on the 1st of December, 1987. For further details write to Compunet Teleservices Limited,

Sheraton Business Centre, Wadsworth Raod, Perivale, Middlesex, UB6 7JB.

Database Software. Mini Office II is available at £16.95 on disk (RRP £19.95) or £13.95 on cassette (RRP £16.95) to members when ordered through me. Send your cheque, made out to Database Software Limited and endorsed on the rear with your membership number and your address, with your written order and an 18P stamp to me. The program will be despatched to you directly from the software house.

Fontmaster 128 is available from Bytes and Pieces - see their advertisement in this issue - at £49.95. Members may obtain a discount of 10% on direct application to Chris Wright. The program comes bundled with a dictionary disk.

GEOS for the C128 may be obtained from Bytes & Pieces at £49.95 less 10% to members. This company has many other programs for the C128 including the 1581 3.5 inch disk drive for direct connection to the C64/128 machines. In fact 10% discount is allowed to members on all their prices.

LAN Computer Systems Ltd., of 1063 High Road, Chadwell Heath, Romford, Essex, RM6 4AV (01-599 0961) Amiga specialists and Commodore Business dealers can make software available at up to 25% discount to members. Their hardware (Amigas and CBM PC's) is being made available at special prices to members. Call Tony or Mike for more details on 01-599 0961.

Sentinel Software will supply members, who quote their membership number, with Word Perfect for the Amiga or the PC. Your orders should be sent to them at Wellington House, New Zealand Avenue, Walton-on-Thomas, Surrey KT12 1PY marked for the attention of Sandy Wall. The price for this program for the Amiga has just been reduced to £199 plus VAT and members discount is 30%. You can obtain a further reduction of £50 if you send them your complete Amiga Scribble 2.0 program. This extra reduction is for a limited period only.

Shazaan Systems Ltd, of 8 Alma Close, Knaphill, Woking, Surrey GU21 2BP will supply directly to members their product THE MOUSE PLUS for the special low price of £16.00 (RRP £19.95). The Mouse Plus consists of a connector and some software - disk format only - which enables the keyboard at the same time as the NEOS mouse.

***

READERS WRITE . . .

PLUS 4 USER PORT
S Jones of 46 Singapore Drive, Brompton, Gillingham, Kent, needs Plus4 help.

How do I go about programming the Plus 4 user port? - either from BASIC or assembly language. I am fairly conversant with the method used for the Commodore 64, so if it is a similar method all I need is the memory locations and any other differences.

PET REQUEST
P Spill, The Guild of Architectural Ironmongers, 8 Stepney Green, London. E1 3JU, requests information on his Commodore 8096.

As a business user of the Commodore 8096 with 'Silicon Office', I noticed that there appears to be very little material submitted which is of any great value to myself. I would be obliged if any members could submit information applicable to the 8000 series as I am sure there must be hundreds of users out there.

NEWSLETTER NEWCOMER
Andy Sochanik, 12 Cloverlea Rd, Warmley, Bristol BS15 5LF

I have just read Mag #5, in particular the letter from Frank Murray entitled Moans and Groans. I quite agree with several of his points.

The main one is that the Newsletter is becoming an Amiga Magazine. Fine for the 20 or 30 owners out there, but what about the rest of us? I've got a C16, Plus 4 and C64, with 1525 printer and 1541 disk drive. She-who-must-be-obeyed would not wear yet another computer arriving. As a newcomer to ICPUG I would relish you reprinting older articles that are still relevant to these machines. I have a phobia that all the snags etc. that I encounter have been discovered and dealt with years ago. For example, there is some talk of descenders for MPS803 printers. Are the 1525 printers covered by this as well?

For my sins, if anyone is interested, I can provide details on how to convert your C16 to a Plus 4 memory size (60671 Bytes free to BASIC) or carry out the conversion for you for £35 inc. post. This is a mod that involves replacing the 4416 RAMs with 4464s, and hence will invalidate any guarantees that apply, although of course, my work is itself guaranteed. Two questions:-

1) What is Superbase? Why do you go on about it so much? How have I survived this long without it?

2) Compunet, Prestel, Micronet etc. Can you please explain what exactly they are and how I could benefit from it. Also what other options are there, and how do I sample it before committing my hard earned cash to it?

• 1) Superbase is an extremely powerful professional and programmable database written by Precision Software, early ICPUG affiliates, available on almost the whole range of Commodore machines, and now on the Amiga, in both Personal and Professional forms. It is often examined in-depth in the Super* Corner, which is back-indexed at the beginning of each year.

2) These are Telecommunications networks offering a large range of services including up/down loadable information pages and personal mailboxes. Compunet is for Commodore machines, and Prestel is run by BT for all machines. Follow Brian Grainger's Network News for more info.

CONSISTENT COMMODORES (?)
J Tanner of 43 Northumbria Drive, Bristol, BS9 4HL writes:

I have upgraded my Automenu program (see Vol 9 No 2) to be compatible with any CBM machine from PET BASIC 1.0 to C128 except that I am lacking a positive means of identification of the Plus 4 and C16 machines. I have used location 57345 to distinguish all other versions but it does not work for these two. Can anyone provide one or more locations which can be used to identify the different machines in the CBM range excluding PC and Amiga? Failing a response from members if anyone is in touch with Jim Butterfield perhaps they would raise my query. One cannot doubt that he could provide the answer.

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FOR SALE AND WANTED

For Sale

OXFORD PASCAL for Commodore 128, hardly used £30. Eric Hayes tel (0469) 76521 (S. Humberside)

AMIGA SOFTWARE: Lattice C (3.03) £60. 68000 Assembler £30. Cambridge Lisp £25. ISO Pascal £25. Transformer V1.2 £25. Graphicraft £10. AMIGA BOOKS: Hardware Reference Manual £10. Intuition Reference Manual £10. ROM Kernal Reference Manual - Exec £10. ROM Kernal Reference manual - Libs £20. DOS Reference Manual £10. Write to: Mr. Phillips, 9 Moat Court, Branksome Wood Road, Bournemouth, Dorset, BH4 9LA (P&P inc.)

MIRACLE TECH. 64 Multi-Modem (300/300, 1200/75 Teletype & Viewdata) Autodial and Autoanswer £60. The Quill (d), White Lightning (d), Handic MON 64 (c) £8 each. ADA Training Course (d), CBM Macro Assembler (d) £5 each. Supersoft Mikro Assembler (c) £20. Petspeed BASIC Compiler for the 64 (d) £10. CBM Programmer's Utilities (d) £5. Programming the 64 (Rae West book) £5. Other s/w and books as well. Graham Stubbs tel (0634) 71819 after 7pm

KOALA PAD, Glentop 3D Drawing Program disk & Quickshot 9 Joyball Controller £50. Easyscript disk £15. Mini-Office disk £12. Simon's Basic cartridge & Extension disk £15. Quill & Illustrator £12. Graphic Adventure Creator disk £14. Activision's GameMaker disk £10. 3-Slot Cartridge Motherboard £10. Office-Mate (w/p, database, mailist, home accounts) disk £6. Ski-Writer w/p disk £5. Mark Hewitt, 16 Kendal Road, Longlevens, Gloucester. GL2 0NB, tel 0452-506664

EASY SCRIPT £10. Easy File £10. £Easy Calc £10. Easy Spell £10. COMAL cartridge £45. ADA Training Course £10. First Word £10. 3D Graphics Drawing Board. £10. Consultant Database £10. Forth Cartridge £10. Gemini Database £5. Tel (0865) 251604 (Oxford)

SUPERBASE 128 (Version 2.08) complete with manual £29 inc. P&P. Terry Hart, 17 Burns Gardens, Lincoln, LN2 41J, tel (0522) 29643

COMMODORE FM EXPANDER + 200 new voices on disk £30. CBM Sound Sampler £20. Tel Penketh 8775 after 7pm

C128 SOFTWARE: Digital Research CP/M User's Manual and Software £15. Viza Classic Word Processor £45. HiSoft Pascal-80 CP/M Compiler and Editor £28. Audiogenic Swift Spreadsheet (128/64) £12. Glentop 3d Graphics Drawing Board £8. C128 BOOKS: Your Commodore 128 (McGraw-Hill) £6. Anatomy of the 128 (1st Publishing) £8. CP/M Handbook by R. Zaks (Sybex) £8. CP/M The Software Bus by Clark, Eaton & Powys-Lybbe (Sigma) £5. All items in mint condition, tel (0742) 364702 (Sheffield - after 6.30pm during the week)

MICROCLERK 128 £45. CAD Pack 128 + lightpen £35. Artist + NEOS mouse £35. The Music Shop £20. Golf Construction Set £17. Winnie The Pooh £7. Killed Until Dead £9. Tel (0224) 632067 (Aberdeen - after 7pm)

CBM64/1541/MPS801/DPS1101; tape deck; 2 joysticks; light pen; Dolphin Dos (fast!) - all in original boxes and in excellent condition. SOFTWARE incl. S/Script; Speech; White Lightning; Laser Compiler; Oxford Pascal; Circuit Analysis; Public Domain & Games (30+ disks). BOOKS Inc. Programmer's Ref. Guide and several on M/Code. Cost £1000 ne, will accept £600 for the complete sytem. Mike Addlesee tel (0223) 31519 (Cambridge, evenings)

COMMODORE SFD 1001 1 Megabyte drive with PET IEEE cable and Brainboxes 64/128 interface £150. Can supply Superscript 128 and Superbase 128 on the format for this drive, with original manuals of course. GEOS for the 64 in pristine condition (never used) to the first £15. Tel (0253) 734330 (after 7pm please)

CBM 8096 SK "Porsche" computer with 8250 dual disk drive £250. Extra IEEE cable £15. Centronics and RS232 interfaces £25 each. Also Sanyo 19" mono monitor VM4219 £35. All plus carriage. Peter Reynolds, 65 Claremont Road, Tunbridge Wells, Kent TN1 1TE, tel 0892 26016

AMIGA BOOKS as new by Compute: Elementary Amiga BASIC by C Regena; Beginner's Guide To The Amiga by Dan McNeil; Kids And The AMIGA by EH Carson. All three UK price approx. £37, will accept £20 inc P&P. F Paul, 19 Marlowe Way, Colchester, Essex C03 4JP, tel (0206) 46340

C64 COMPUTER + C2N datasette + joystick £100. 1541 disk drive £100. MPS801 dot matrix printer £100. Precision Superbase 64 database £35. Microswift Magpie database £15. Wordcraft 40 word processor £20. Skiwriter word processor £15. Microswift spreadsheet £20. Plus leads and manuals with spare printer ribbons. Tel (0952) 619625 (Telford)

VARIETY OF C64 tape programs, utilities and books. SAE for list and prices. Joystick and Tapeman interface (both unused) £5.50 each. J Jones, 3 Vicarage Lane, Gresford, Wrexham, Clwyd, LL12 8UW

Wanted

1541 or 1541c CBM disk drive. Rob Hunt tel (01) 348-2711 (London)

PET 2001 circuit diagram + service data. PET 3040 circuit diagram + service data. Plessey 'Petite' service manuals + data sheets. Loan, copy or buy all. PET 2001 Retrofit 28-pin BASIC2 ROM set, buy. Postage will be refunded. John Ayers, 8 Payne Street, Lowestoft, NR33 0EZ

ICPUG Software Libraries

Organiser: Joe Griffin, Clovelly, Lynwick St, Rudgwick, Horsham, W Sussex RH12 3DJ

Please remember that the libraries are operated on an entirely voluntary basis and, unlike many of the American User Groups, ICPUG DOES NOT CHARGE A COPYING FEE.

The Libraries contain PUBLIC DOMAIN programs from a wide range of sources, including our own members and other user groups. WE DO NOT SUPPORT SOFTWARE PIRACY.

Members may obtain ALL the library material. In order to retain a measure of control over the work-load imposed on the Librarians, however, we do restrict the amount of material that may be obtained on any one request.

Disk users may obtain up to two disk copies at a time (Amiga five).
Tape users may obtain up to four programs, from any one disk.
(Please use a C-60 or VC-90 tape ---a C-15 or C-30 may be too short.)

To obtain copies of catalogue or library disks, please send:

A statement of what you want
Your membership number
Disks (stating FORMAT --- type of drive --- required) or Tape
We will NOT use a disk as a 'flippy' as it can damage the disk drive
Pre-addressed reusable packaging suitable for return
There have been occasions when disks have arrived bent in half!
Please ensure that packing is adequate
Return postage --- SEND STAMPS
Overseas members should send International Reply Coupons
(allow at least one-and-a-half IRCs per disk sent)

PET --- Joe Griffin (see above)

VIC --- Joe Griffin (see above)

COMAL --- Brian Grainger, 73 Minehead Way, Stevenage, Herts SG1 2HZ

1520 Plotter --- WGC Austin, School of Geography, Faculty of Humanities, Newcastle Polytechnic, Lipman Building, Sandyford Rd, Newcastle upon Tyne NE1 8ST

1520 (Tape) --- John Bentley, 38 Conway Rd, Taplow, Maidenhead, Berks SL6 0LD

PC Organiser: Tim Arnot, Flat 3, 26/28 Osborne Rd, Southsea, Hants PO5 3LT
Please always send your requests to the librarian listed below who deals with t
CATALGOUE CATEGORY of material you want. Catalogue from Peter Crowder
see below.

A--D Henry Velleman, 52 Ventnor Drive, Totteridge, London N20 8BS
E--O Peter Crowder, 27 Crawford Drive, Liverpool L15 8AE
P--Z David Harrow, 28 Phoenix Drive, Wateringbury, Maidstone, Kent ME18 5DR

Software Libraries (cont.)

Plus 4 (& C-16) --- Richard Hunt, 45 Cumberland Rd, Bromley, Kent BR2 0PL

C-64 Organiser: Andrew Hartley, 83 Thornton Cresc, Wendover, Aylesbury HP22 6DQ
Please send requests to the librarian listed below who deals with the first letter of your surname

A--B David Miller, 38 Exeter Gardens, Ilford, Essex IG1 3LB
C--F R Burns, 48 Grasmere Rd, Royton, Oldham, Lancs OL2 6SR
G--K Geoff Crowther, 60 Fleckney Rd, Kibworth Beauchamp, Leics LE8 0HE
L--O Ray Medford, 4a South Grove, Brooklands, Sale, Cheshire M33 3AU
P--S Nigel Corry, 4 Horsted Way, Rochester. Kent ME1 2XY
T--Z Peter Crowder --- see PC Library, E--O, opposite

Germany (inc. BAOR) Lt AR Perkins, 11 Trenchard Rd, RAF Digby, Sleaford, Lincs

Overseas (other) & 8050/8250 --- Joe Griffin --- see opposite

128 --- Organiser and software collator: Chris Wright (see below)
Please send requests to the librarian listed below who deals with the first letter of your surname

A--C Chris Wright, 37 Cecil Str, Lytham, Lancs FY8 5NN (also Z80 cartridge requests and 8050/8250 copies)
D--J Damien McEnroe, 11 Pentridge Cl, Eastfield Chase, Cramlington,
K--R Bill Gardner, 156 Henwood Rd, Compton, Wolverhampton WV6 8PA
S--Z Dave Tew, 4 Acombe Cresc, Hambrook Pk, Charlton Kings, Cheltenham, Glos GL52 6YH

Overseas A--L Chris Wright; M--Z Bill Gardner (see above)
128 BULLETIN BOARD on 0902--745337 (24h) see p402

Amiga Librarians: Peter Miles, The Queen's Armes Hotel, Charmouth, Dorset DT6 6QF & Archie Clark, 20 Middle Mead, Fareham, Hants PO14 3EG. Write to them with/about your programs. Disk copies should not be requested from the librarians.

Amiga Disk Copiers: (Not more than 5 disks at one time)
Specific ICPUG library disks and the directory disk for these, please send your requests to the librarian listed below who deals with the first letter of your surname

A--I Dr David Annal, 142 Windermere Road, Norbury, London, SW16 5HE
J--R Peter Reeve, 2 Court Road, Tunbridge Wells, Kent TN4 8ED
S-Z Chris Wright (see 128 above)

Public Domain (non-ICPUG) - Fish, Amicus & Demo disks and the directory disk for these, please send your requests to the librarian listed below who deals with the first letter of your surname

A--K John Bickerstaff, 45 Brookscroft, Linton Glade, Croydon, Surrey CR0 9NA
L--Z John Grove, The Cobnuts, Cobbs Close, Ightham, Sevenoaks, Kent TN14 9DB